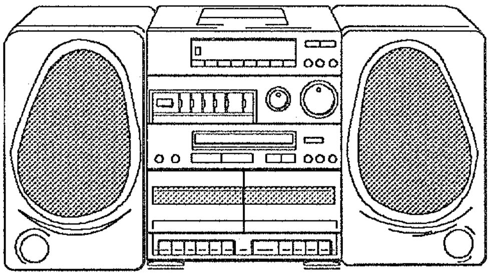
S/M Code No.0101 DATE OF ISSUE 8/1992 - T

aiwa

CA-DW500

SERVICE MANUAL



CARRY COMPONENT SYSTEM

- BASIC TAPE MECHANISM : TN - 21ZSW
- BASIC CD MECHANISM : KSL - 2101A
- TYPE. K

SPECIFICATIONS

TUNER SECTION

<K model>	
FM	87.5-108.0 MHz Antenna: Whip antenna
MW	522-1,611 kHz Antenna: Ferrite bar antenna
LW	153-288 kHz Antenna: Ferrite bar antenna
<U model>	
FM	87.5-108.0 MHz Antenna: Whip antenna
AM	530-1,710 kHz (10 kHz step) 531-1,602 kHz (9 kHz step) Antenna: Ferrite bar antenna

AMPLIFIER SECTION

Power output	5 W + 5 W (4 ohms, EIAJ) Max.: 7 W + 7 W FTC rule 3.75 Watts per channel, Min. RMS at 4 ohms, from 80 Hz to 20,000 Hz, with no more than 3 % distortion
Input sensitivity (load impedance)	MIC: 2 mV (10 kohms) CD/LINE IN: 300 mV (47 kohms)
Power requirements	K: AC 240 V, 50/60 Hz U: AC 110-120 V/220-240 V selectable, 60Hz
Power consumption	25W

CD PLAYER SECTION

Disc	Compact disc
Scanning Method	Non contact optical scanner (semiconductor laser application)
Laser	Semiconductor laser λ=780 nm
Rotation speed	Approx. 500-200 rpm/CLV
Error correction	Cross Interleave, Reed Solomon code
No. of channels	2 channels
D.A. conversion	16 bit linear
Frequency responce	40-20,000 Hz $^{-2}_{+6}$ dB

CASSETTE DECK SECTION

Track format	4 tracks, 2 channels
Frequency response	Normal tape: 50-12,000 Hz
Signal to noise ratio	50 dB (Normal tape)
Wow and flutter	0.2 % (WRMS)
Tape speed	4.8 cm/sec (1 7/8 ips)
Rewind time	120 sec (C-60)
Fast forward time	120 sec (C-60)
Recording system	AC bias
Erasure system	AC erase
Motor	DC motor x 1
Heads	Record/playback head x 1 (deck 1) Erasure head x 1 (deck 1) Playback head x 1 (deck 2)

COMMON SECTION

Dimensions (W x H x D)	625 x 305 x 245 mm (24 5/8 x 12 1/8 x 9 3/4 in.)
Weight	7.2 kg (15.8 lbs) (not including batteries)

SPEAKER

Cabinet type	2-way Bass reflex type
Speaker	120 mm (4 3/4 in.) cone type woofer 27 mm (1 1/8 in.) ceramic type tweeter
Impedance	4 ohms
Allowable max. input	12 W
Dimensions (W x H x D)	185 x 305 x 220 mm x 2 (7 3/8 x 12 1/8 x 8 3/4 in.)
Weight	1.5kg (3.3 lbs) x 2

- Design and specifications are subject to change without notice.

AIWA CO.,LTD. Tokyo Japan

Printed in Japan

TABLE OF CONTENTS

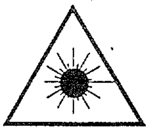
- SPECIFICATIONS ······ 1
- PROTECTION OF EYES FROM LASER BEAM DURING SERVICING ······ 3
- PRECAUTION TO REPLACE OPTICAL BLOCK ······ 3
- ELECTRICAL MAIN PARTS LIST ······ 4~6
- TRANSISTOR ILLUSTRATION ······ 6
- ACCESSORIES/PACKAGE LIST ······ 6
- IC DESCRIPTION – 1 ······ 7~13
- WIRING – 1 (PRE AMP/FRONT) ······ 14~16
- SCHEMATIC DIAGRAM – 1 (PRE AMP) ······ 17, 18
- IC DESCRIPTION – 2 ······ 19, 20
- LCD SEGMENT/COMMON ······ 20
- SCHEMATIC DIAGRAM – 2 (FRONT) ······ 21~24
- IC BLOCK DIAGRAM ······ 25, 26
- WIRING – 2 (TUNER) ······ 27, 28
- SCHEMATIC DIAGRAM – 3 (TUNER) ······ 29, 30
- WIRING – 3 (CD) ······ 31, 32
- SCHEMATIC DIAGRAM – 4 (CD) ······ 33, 34
- ADJUSTMENT ······ 35~38
- PRACTICAL SERVICE FIGURE ······ 38
- EXPLODED VIEW – 1, MECHANICAL PARTS LIST ······ 39, 40
- EXPLODED VIEW – 2, MECHANICAL PARTS LIST ······ 41, 42
- EXPLODED VIEW – 3, MECHANICAL PARTS LIST ······ 43
- EXPLODED VIEW – 4, MECHANICAL PARTS LIST ······ 44, 45
- EXPLODED VIEW – 5, MECHANICAL PARTS LIST ······ 46, 47
- EXPLODED VIEW – 6, MECHANICAL PARTS LIST ······ 48, 49
- EXPLODED VIEW – 7, MECHANICAL PARTS LIST ······ 50

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion.
  Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1
LASER PRODUCT

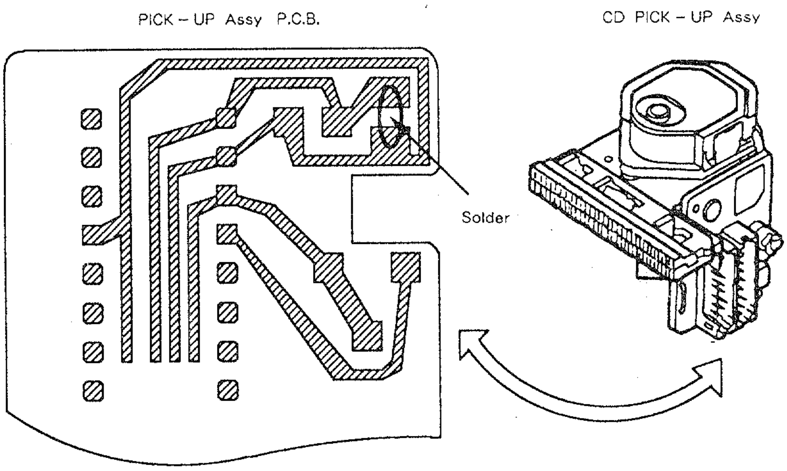
LUOKAN 1
LASERLAITE

KLASS 1
LASER APPARAT

Precaution to replace Optical block (KSS – 210A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.



ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
===IC===		
	87-027-761-010	IC, AN7310
	87-002-258-010	IC, AN8377N
	S0-510-303-600	IC, BA3822LS
	S4-054-120-000	IC, BA5412
	87-002-427-010	IC, BA6209N
	S3-080-355-900	IC, BU3559CK
	⚠87-001-196-010	IC, ICP-N10
	87-002-268-010	IC, LA1851N
	87-001-927-080	IC, LC7218M
	87-001-270-010	IC, M5223L
	87-001-206-010	IC, S81250HG
	87-027-951-010	IC, TA7668BP
	87-001-176-010	IC, TA8102P
	87-002-264-080	IC, TA8176F
	87-002-407-010	IC, TA8191F
	87-002-408-010	IC, TC9236F
	87-001-516-080	IC, TK11821
	S3-647-820-030	IC, TMP47C820F-N831
	87-002-259-010	IC, UPD6376GS
===TRANSISTOR===		
	89-502-094-010	FET, 2SK209Y
	89-502-114-010	FET, 2SK211Y
	89-112-965-010	TRANSISTOR, 2SA1296GR
	87-026-452-080	TRANSISTOR, 2SA933S
	89-210-642-010	TRANSISTOR, 2SB1064E
	87-026-462-080	TRANSISTOR, 2SC1740S(RS)
	89-327-126-010	TRANSISTOR, 2SC2712Y
	89-327-143-080	TRANSISTOR, 2SC2714(0)
	84-404-635-010	TRANSISTOR, 2SD882 Q
	S3-210-080-500	TRANSISTOR, 8050C
	S1-021-855-0D0	TRANSISTOR, 8550C
	S3-220-901-220	TRANSISTOR, 9012H
	S3-210-901-350	TRANSISTOR, 9013H
	S1-021-901-4C0	TRANSISTOR, 9014C
	87-026-286-010	TRANSISTOR, DTA143EK
	87-026-288-010	TRANSISTOR, DTA143XK
	87-026-219-010	TRANSISTOR, DTA144EK
	87-026-486-080	TRANSISTOR, DTA144TS
	87-026-291-080	TRANSISTOR, DTC124XK
	87-026-291-080	TRANSISTOR, DTC124XS
	87-026-287-010	TRANSISTOR, DTC143
===DIODE===		
	82-135-799-010	DIODE, 1N4148
	S3-315-401-000	DIODE, 1N5401
	87-020-465-010	DIODE, 1SS133
	87-020-027-080	DIODE, 1SS184
	87-020-339-010	DIODE, 1SS226
	S3-320-023-500	DIODE, DAN 235K
	S3-330-002-200	ZENER, 2.2VB 1/2W
	S3-330-004-300	ZENER, 4.3VB 1/2W
	S3-330-005-100	ZENER, 5.1VB 1/2W
	S3-330-005-620	ZENER, 5.6VB 1/2W
	S3-330-006-200	ZENER, 6.2VB
	S3-330-091-000	ZENER, 9.1V 1/2W
===TUNER CIRCUIT BOARD SECTION===		
BPF1	★S5-535-800-010	FILTER BPMB 6AT
C7	★87-010-067-010	CAP, E 0.1UF-50V
C31	★87-010-067-010	CAP, E 0.1UF-50V
C73	★87-010-248-010	CAP, E 220UF-10V
C74	★87-010-402-010	CAP, E 2.2UF-50V
C78	★87-010-401-019	CAP, E 1UF-50 SME
C79	★87-010-401-019	CAP, E 1UF-50 SME
C80	★87-010-546-080	CAP, E 0.33UF-50V
C81	★87-010-401-019	CAP, E 1UF-50 SME
C84	★87-010-401-019	CAP, E 1UF-50 SME
C86	★87-010-404-010	CAP, E 4.7UF-50V
C87	★87-010-401-019	CAP, E 1UF-50 SME
C90	★87-010-405-010	CAP, E 10UF-50V
C91	★87-010-545-010	CAP, E 0.22UF-50
C96	★87-010-545-010	CAP, E 0.22UF-50
C97	★87-010-221-019	CAP, E 470UF-10
C120	★87-010-263-010	CAP, E 100UF-10V
C129	★87-010-374-010	CAP, E 47UF-10V
C134	★87-010-067-010	CAP, E 0.1UF-50V
C138	★87-010-405-010	CAP, E 10UF-50V
CF1	★S5-531-070-510	CERA SFE 10.7MS2-A
CF2	★S5-531-070-510	CERA SFE 10.7MS2-A
IFT1	★S5-205-800-030	IFT, FM(QUAD)PS
L1	★S5-212-790-000	COIL 0.27UH
L3	★S5-212-280-000	INDUCTOR 2.2UH
L4	★S5-211-010-000	INDUCTOR 100UH
L5	★S5-211-010-000	INDUCTOR 100UH
L6	★S5-211-010-000	INDUCTOR 100UH
L7	★S5-205-800-040	COIL OSC LW PS
L8	★S5-205-800-010	COIL OSC MW PS
L9	★S5-205-800-000	BAR ANT AM
L10	★ + + +	BAR ANT AM
L11	★S5-205-800-020	COIL, OSC DC-DC
MFT1	★S5-535-800-000	FLTR CDMT 450PS
SFR1	★S1-812-233-020	SFR 22K-3P
SFR2	★S1-811-033-020	SFR 10K-3P
TC1	★S2-813-000-000	CAP, TRIMMER 30P
TC2	★S2-811-000-000	CAP, TRIMMER 10P
VC1	S3-390-020-900	DIODE, SVC209TA
VC2	S3-390-020-900	DIODE, SVC209TA
VC3	S3-390-156-000	DIODE, KV1560
VC4	S3-390-156-000	DIODE, KV1560
X1	★S5-517-200-000	X'TAL 7.2MHZ
X2	★S5-520-045-700	CERA RESO KBR457HS15
===PRE AMP CIRCUIT BOARD SECTION===		
C300	★87-010-260-010	CAP, E 47UF-25V
C303	★87-010-403-010	CAP, E 3.3UF-50V
C306	★87-010-403-010	CAP, E 3.3UF-50V
C308	★87-010-405-010	CAP, E 10UF-50V
C309	★87-010-101-080	CAP, E 220UF-16V
C310	★87-010-260-010	CAP, E 47UF-25V
C312	★87-010-067-010	CAP, E 0.1UF-50V
C314	★87-010-067-010	CAP, E 0.1UF-50V
C316	★87-010-260-010	CAP, E 47UF-25V
C319	★87-010-403-010	CAP, E 3.3UF-50V
C321	★87-010-403-010	CAP, E 3.3UF-50V
C324	★87-010-101-080	CAP, E 220UF-16V
C332	★87-010-067-010	CAP, E 0.1UF-50V
C333	★87-010-067-010	CAP, E 0.1UF-50V
C336	★87-010-385-010	CAP, E 100UF-25V
C337	★87-010-101-080	CAP, E 220UF-16V
C338	★87-010-403-010	CAP, E 3.3UF-50V
C339	★87-010-101-080	CAP, E 220UF-16V
C340	★87-010-403-010	CAP, E 3.3UF-50V
C341	★87-010-101-080	CAP, E 220UF-16V
C343	★87-010-385-010	CAP, E 100UF-25V
C347	★87-010-389-010	CAP, E 2200UF-25V
C348	★87-010-385-010	CAP, E 100UF-25V
C349	★87-010-067-010	CAP, E 0.1UF-50V
C350	★87-010-067-010	CAP, E 0.1UF-50V
C351	★87-010-260-010	CAP, E 47UF-25V
C352	★87-010-260-010	CAP, E 47UF-25V
C353	★87-010-385-010	CAP, E 100UF-25V
C355	★87-010-260-010	CAP, E 47UF-25V
C357	★87-010-388-010	CAP, E 1000UF-25V

REF. NO.	PART NO.	DESCRIPTION
C358	★87-010-388-010	CAP, E 1000UF-25V
C359	★87-010-388-010	CAP, E 1000UF-25V
C360	★87-010-260-010	CAP, E 47UF-25V
C364	★87-010-067-010	CAP, E 0.1UF-50V
C366	★87-010-235-080	CAP, E 470UF-16V
C371	★87-010-235-080	CAP, E 470UF-16V
C372	★87-010-067-010	CAP, E 0.1UF-50V
L300	★S5-214-700-010	COIL 47UH
L301	★S5-225-556-210	AC BIAS OSC COIL(2A621)
SW302	S5-145-800-010	REC, SWITCH 9P2T(REC↔PLAY)
VR300	★S1-822-025-000	VR RES, 2KB-3P

===CD MAIN CIRCUIT BOARD SECTION===

REF. NO.	PART NO.	DESCRIPTION
C1	★87-010-382-010	CAP, E 22UF-25V
C6	★87-010-248-010	CAP, E 220UF-10V
C9	★87-010-545-010	CAP, E 0.22UF-50
C10	★87-010-263-010	CAP, E 100UF-10V
C11	★87-010-401-019	CAP, E 1-50 SME
C12	★87-010-248-010	CAP, E 220UF-10V
C15	★87-010-265-080	CAP, E 33UF-16U
C16	★87-010-403-010	CAP, E 3.3UF-50V
C17	★87-010-374-010	CAP, E 47UF-10V
C24	★87-010-248-010	CAP, E 220UF-10V
C26	★87-010-371-010	CAP, E 470UF-6.3V
C27	★87-010-235-080	CAP, E 470UF-16V
C35	★87-010-263-010	CAP, E 100UF-10V
C38	★87-010-263-010	CAP, E 100UF-10V
C44	★87-010-248-010	CAP, E 220UF-10V
C50	★87-010-374-010	CAP, E 47UF-10V
C52	★87-010-401-019	CAP, E 1-50 SME
C64	★87-010-381-080	CAP, E 330UF-16V
C101	★87-010-374-010	CAP, E 47UF-10V
C102	★87-010-374-010	CAP, E 47UF-10V
C109	★87-010-404-010	CAP, E 4.7UF-50V
C110	★87-010-404-010	CAP, E 4.7UF-50V
EMI1	★S5-535-800-020	FLTR OIRNI
EMI2	★S5-535-800-020	FLTR OIRNI
L1	★S5-211-010-000	INDUCTOR 100UH
L2	★S5-211-010-000	INDUCTOR 100UH
SFR1	★S1-814-723-020	SFR 4.7K-3P
SFR2	★S1-811-043-020	SFR 100K-3P
X1	★S5-520-169-300	CERA RESO 16.93M

===FRONT CIRCUIT BOARD SECTION===

REF. NO.	PART NO.	DESCRIPTION
C103	★87-010-405-010	CAP, E 10UF-50V
C105	★87-010-385-010	CAP, E 100UF-25V
C122	★87-010-405-010	CAP, E 10UF-50V
C123	★87-010-403-010	CAP, E 3.3UF-50V
C125	★87-010-385-010	CAP, E 100UF-25V
C127	★87-010-385-010	CAP, E 100UF-25V
C129	★87-010-101-080	CAP, E 220UF-16V
C131	★87-010-400-010	CAP, E 0.47UF-50V
C132	★87-010-405-010	CAP, E 10UF-50V
C133	★87-010-405-010	CAP, E 10UF-50V
C134	★87-010-404-010	CAP, E 4.7UF-50V
C135	★87-010-404-010	CAP, E 4.7UF-50V
C136	★87-010-404-010	CAP, E 4.7UF-50V
C137	★87-010-382-010	CAP, E 22UF-25V
C138	★87-010-404-010	CAP, E 4.7UF-50V
C139	★87-010-382-010	CAP, E 22UF-25V
C140	★87-010-385-010	CAP, E 100UF-25V
C141	★87-010-067-010	CAP, E 0.1UF-50V
C144	★87-010-067-010	CAP, E 0.1UF-50V
C146	★87-010-404-010	CAP, E 4.7UF-50V
C148	★87-010-067-010	CAP, E 0.1UF-50V
C149	★87-010-067-010	CAP, E 0.1UF-50V
C150	★87-010-546-080	CAP, E 0.33UF-50V
C151	★87-010-546-080	CAP, E 0.33UF-50V
C164	★87-010-404-010	CAP, E 4.7UF-50V
C165	★87-010-404-010	CAP, E 4.7UF-50V
C166	★87-010-404-010	CAP, E 4.7UF-50V
C167	★87-010-404-010	CAP, E 4.7UF-50V
C170	★87-010-101-080	CAP, E 220UF-16V
C171	★87-010-385-010	CAP, E 100UF-25V
C172	★87-010-385-010	CAP, E 100UF-25V
C177	★87-010-385-010	CAP, E 100UF-25V
C178	★87-010-371-010	CAP, E 470UF-6.3V
C180	★87-010-385-010	CAP, E 100UF-25V
LCD100	S3-520-053-000	LCD, BU5300AZ(DISPLAY)
LED100	S3-515-500-000	LED, 5X5MM RED HI-EFF(OPE/BATT)
S100	S5-165-550-071	TACT SWITCH(⏏OPEN/CLOSE)
S101	S5-165-800-010	TACT SWITCH(1)
S102	S5-165-800-010	TACT SWITCH(2)
S103	S5-165-800-010	TACT SWITCH(3)
S104	S5-165-800-010	TACT SWITCH(4)
S105	S5-165-800-010	TACT SWITCH(5)
S106	S5-165-800-010	TACT SWITCH(6)
S107	S5-165-800-010	TACT SWITCH(7)
S108	S5-165-800-010	TACT SWITCH(8)
S109	S5-165-550-071	TACT SWITCH(BAND)
S110	S5-165-550-071	TACT SWITCH(MEMORY/SET)
S111	S5-165-550-071	TACT SWITCH(STOP)
S112	S5-165-550-071	TACT SWITCH(∧UP)
S113	S5-165-550-071	TACT SWITCH(REPEAT)
S114	S5-165-550-071	TACT SWITCH(PLAY/PAUSE)
S115	S5-165-550-071	TACT SWITCH(∨DOWN)
S116	S5-165-550-071	TACT SWITCH(CD MODE)
S117	S5-165-550-071	TACT SWITCH(FM MODE/OSC)
S118	S5-165-550-071	TACT SWITCH(MEMORY)
S119	S5-165-550-071	TACT SWITCH(▶▶/▶▶|)
S120	S5-165-550-071	TACT SWITCH(|◀◀/◀◀)
SW102	S5-134-400-000	FUNCTION SELECTOR 4P4T(FUNCTION)
SW103	S5-102-258-000	SWITCH 2P2T(DUBBING SPEED)
VR100	★S1-815-032-050	VR 50KA-25F(VOLUME)
VR101	★S1-821-040-121	SLIDE VR 100KBX2(BALANCE)
VR102	★S1-825-030-121	SLIDE VR 50KBX2(100Hz)
VR103	★S1-825-030-121	SLIDE VR 50KBX2(350Hz)
VR104	★S1-825-030-121	SLIDE VR 50KBX2(1kHz)
VR105	★S1-825-030-121	SLIDE VR 50KBX2(3.5kHz)
VR106	★S1-825-030-121	SLIDE VR 50KBX2(10kHz)
X1	★S5-524-190-000	CERA RESO 4.19M
X2	★S5-510-327-682	X'TAL 32.768kHz

===MIC CIRCUIT BOARD SECTION===

REF. NO.	PART NO.	DESCRIPTION
J500	★S5-065-800-020	ST PHONE JACK(PHONES)
J501	★S5-065-800-020	ST PHONE JACK(MIXING MIC)

===JACK CIRCUIT BOARD SECTION===

REF. NO.	PART NO.	DESCRIPTION
J600	★S5-063-080-010	RCA JACK PHONO CD(AUX)
J601	★S5-065-800-010	SPEAKER JACK(SPEAKERS R)
J602	★S5-065-800-010	SPEAKER JACK(SPEAKERS L)

===POWER CIRCUIT BOARD SECTION===

REF. NO.	PART NO.	DESCRIPTION
	★S5-320-558-000	FUSE CLIP DIA=5MM
⚠C405	★87-010-389-010	CAP, E 2200UF-25V
⚠F401	S5-310-202-500	FUSE 2A 250V

===MOTOR-1 CIRCUIT BOARD SECTION===

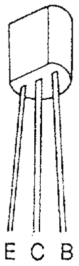
REF. NO.	PART NO.	DESCRIPTION
M1	9X-262-513-210	MOTOR GEAR ASSY(SLED)
M2	9X-262-513-310	MOTOR ASSY(W/CHASSIS, T.T)(SPINDLE)
SW1	91-572-085-110	LEAF SW(INSIDE LIMIT)

===MOTOR-2 CIRCUIT BOARD SECTION===

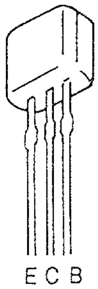
REF. NO.	PART NO.	DESCRIPTION
M3	9X-262-511-710	MOTOR ASSY(LOADING)
SW2	91-572-086-110	LEAF SW(OPEN)
SW3	91-572-086-110	LEAF SW(CLOSE)

REF. NO.	PART NO.	DESCRIPTION
===MISCELLANEOUS===		
	98-848-127-11Z	OPTICAL PICK UP KSS-210A
EH	★S6-202-140-190	E HEAD(D1)
⚠J1	★S5-075-800-000	AC SOCKET(AC~)
M1	S6-003-030-440	MOTOR(DECK)
PH	S6-202-010-750	P HEAD(D2)
⚠PT1	S5-235-800-000	POWER TRANSFORMER 240V/DC14V 1.6A
RPH	S6-202-010-750	R.P HEAD(D1)
SW100	S6-401-011-340	LEAF SW(MOTOR)
SW101	S6-401-011-240	LEAF SW(MOTOR)
SW104	S6-401-010-380	LEAF SW(PLAY 2)

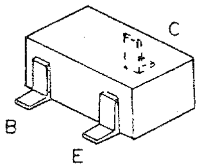
TRANSISTOR ILLUSTRATION



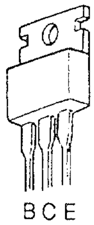
2SA1296
8550C
9012H
9013H
9014H



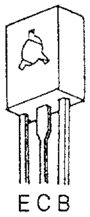
2SA993
2SC1740
DTA144TS
DTC124XS



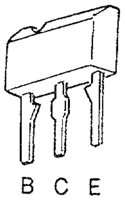
2SC2712
2SC2714
DTA143XK
DTA144EK
DTC124XK
DTC143EK



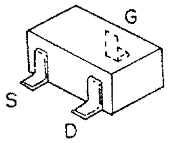
2SB1064



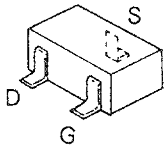
2SD882



DTA143EK



2SK209



2SK211

■ ACCESSORIES／PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q,TY
	1	★82-CT4-901-010	INSTRUCTION BOOKLET, K	※	1
	2	★S5-795-800-020	POWER CORD SET		1

IC DESCRIPTION – 1

IC,LC7218M

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th colspan="4">Description</th></tr>
<tr><td>1</td><td>X IN</td><td>I</td><td colspan="4">Connected to the crystal clock oscillator.</td></tr>
<tr><td>2</td><td>CE</td><td>I</td><td colspan="4" rowspan="4">Input terminal of control data from microcomputer TMP47C820F-3638 (TMP47C820F-3665).</td></tr>
<tr><td>3</td><td>DI</td><td>I</td></tr>
<tr><td>4</td><td>CL</td><td>I</td></tr>
<tr><td>5</td><td>DO</td><td>I</td></tr>
<tr><td>6</td><td>SYN</td><td>—</td><td colspan="4">Not used.</td></tr>
<tr><td>7</td><td>AS IN0</td><td>I</td><td colspan="4">"L" when tuning. "H" in cases other than tuning.</td></tr>
<tr><td>8</td><td>ST. IND. IN1</td><td>I</td><td colspan="4">"L" when stereobroadcasting. "H" in other case than stereobroadcasting.</td></tr>
<tr><td>9</td><td>R. C. $\overline{\text{OUT0}}$</td><td>O</td><td colspan="4">Not used.</td></tr>
<tr><td rowspan="2">10</td><td rowspan="2">M.CONT $\overline{\text{OUT1}}$</td><td rowspan="2">O</td><td rowspan="3">Tuner sound mode selection output.</td><td rowspan="3">FM mode</td><td>AUTO</td><td>MONO</td></tr>
<tr><td>H</td><td>L</td></tr>
<tr><td>11</td><td>M.CONT $\overline{\text{OUT2}}$</td><td>O</td><td>L</td><td>H</td></tr>
<tr><td>12</td><td>$\overline{\text{OUT3}}$</td><td>O</td><td colspan="4">Tuner band selection output.</td></tr>
<tr><td>13</td><td>SW (MW) $\overline{\text{OUT4}}$</td><td>O</td><td colspan="4">Tuner band selection output.</td></tr>
<tr><td>14</td><td>MW (LW) $\overline{\text{OUT5}}$</td><td>O</td><td colspan="4">Tuner band selection output.</td></tr>
<tr><td>15</td><td>LCTR</td><td>I</td><td colspan="4">IF COUNT for AUTO STOP. AM 450kHz input terminal.</td></tr>
<tr><td>16</td><td>HCTR</td><td>I</td><td colspan="4">IF COUNT for AUTO STOP. AM 10.7MHz input terminal.</td></tr>
<tr><td>17</td><td>FM $\overline{\text{OUT6}}$</td><td>O</td><td colspan="4">Tuner band selection output. FM/AM</td></tr>
<tr><td>18</td><td>AM IN</td><td>I</td><td colspan="4">AM oscillation frequency input.</td></tr>
<tr><td>19</td><td>FM IN</td><td>I</td><td colspan="4">FM oscillation frequency input.</td></tr>
<tr><td>20</td><td>V_{cc}</td><td>—</td><td colspan="4">+5 V power supply terminal.</td></tr>
<tr><td>21</td><td>PD1</td><td>O</td><td colspan="4">Tuning voltage control output.</td></tr>
<tr><td>22</td><td>PD2</td><td>—</td><td colspan="4">Not used.</td></tr>
<tr><td>23</td><td>GND</td><td>—</td><td colspan="4">GND</td></tr>
<tr><td>24</td><td>XOUT</td><td>O</td><td colspan="4">Connected to crystal oscillator.</td></tr>
</table>

IC,BU3559CK

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th colspan="2">Description</th></tr>
<tr><td>1</td><td>$\overline{\text{TAPE}}$</td><td>O</td><td colspan="2">Common drive Nch open drain output for the function of TP LED driver.</td></tr>
<tr><td>2</td><td>$\overline{\text{DOLBY}}$</td><td>O</td><td colspan="2">Common drive Nch open drain output for the function of the TP LED driver.</td></tr>
<tr><td>3</td><td>$\overline{\text{TAPE MODE}}$</td><td>O</td><td colspan="2">Common drive Nch open drain output for the function of the TP LED driver.</td></tr>
<tr><td>4</td><td>$\overline{\text{HI SPEED DUBB}}$</td><td>O</td><td colspan="2">Common drive Nch open drain output for the function of the TP LED driver.</td></tr>
<tr><td>5</td><td>$\overline{\text{CD STOP}}$</td><td>O</td><td colspan="2">"L" output when CD STOP.</td></tr>
<tr><td>6</td><td>NC</td><td>O</td><td colspan="2">Not used.</td></tr>
<tr><td>7</td><td>NC</td><td>O</td><td colspan="2">Not used.</td></tr>
<tr><td>8</td><td>NC</td><td>O</td><td colspan="2">Not used.</td></tr>
<tr><td>9</td><td>$\overline{\text{HALT}}$</td><td>I</td><td colspan="2">Manual HALT input. Setting this terminal to "L" stops oscillating and lessens the current comsumption.</td></tr>
<tr><td>10</td><td>OSC2</td><td>O</td><td colspan="2">Not used.</td></tr>
<tr><td>11</td><td>OSC1</td><td>I</td><td colspan="2">4MHz clock input.</td></tr>
<tr><td>12</td><td>GND</td><td>—</td><td colspan="2">Reference voltage for all input and output. 0V.</td></tr>
<tr><td>13</td><td>A GND</td><td>—</td><td colspan="2">Reference voltage for the analog circuit. 0V.</td></tr>
<tr><td>14</td><td>KEY IN 1</td><td>I</td><td colspan="2">CD tray OPEN/CLOSE KEY input.</td></tr>
<tr><td>15</td><td>CMP 0</td><td>I</td><td colspan="2">Not used.</td></tr>
<tr><td>16</td><td>CMP 0</td><td>I</td><td colspan="2">Not used.</td></tr>
<tr><td>17</td><td>KEY IN 2</td><td>I</td><td colspan="2">CD tray SW detection. "H" when SW is OFF.</td></tr>
<tr><td>18</td><td>AVDD</td><td>—</td><td colspan="2">Power supply connection for the analog circuit of 4.5-5.5V.</td></tr>
<tr><td>19</td><td>$\overline{\text{INIT}}$</td><td>I</td><td colspan="2">Manual reset input.
"L" when reset and the ROM address is set to 0 address of 0 page.</td></tr>
<tr><td>20</td><td>ANALOG SW A</td><td>I/O</td><td rowspan="2">Function IC input switch output.</td><td rowspan="2"><table><tr><th>Function</th><th>CD</th><th>TP</th><th>TUNER</th><th>LINE</th></tr><tr><td>ANALOG SW A</td><td>H</td><td>L</td><td>L</td><td>H</td></tr><tr><td>ANALOG SW B</td><td>L</td><td>L</td><td>H</td><td>H</td></tr></table></td></tr>
<tr><td>21</td><td>ANALOG SW B</td><td>I/O</td></tr>
<tr><td>22</td><td>MOTOR OPEN</td><td>I/O</td><td colspan="2" rowspan="2">CD tray motor drive IC input switch output.
IN SW ON "L", OFF "H". OUT SW ON "L", OFF "H".</td></tr>
<tr><td>23</td><td>MOTOR CLOSE</td><td>I/O</td></tr>
<tr><td>24</td><td>IN SW</td><td>I</td><td colspan="2">CD tray IN SW detection input.</td></tr>
<tr><td>25</td><td>OUT SW</td><td>I</td><td colspan="2">CD tray OUT SW detection input.</td></tr>
<tr><td>26</td><td>REC</td><td>I</td><td colspan="2">Not used.</td></tr>
<tr><td>27</td><td>REMOCON IN</td><td>I</td><td colspan="2">Remote control signal input terminal.</td></tr>
<tr><td>28</td><td>VDD</td><td>—</td><td colspan="2">Current of 4.0V-6.0V is connected.</td></tr>
<tr><td>29</td><td>MUTE</td><td>O</td><td colspan="2">Not used.</td></tr>
<tr><td>30</td><td>$\overline{\text{CD}}$</td><td>O</td><td>Common drive Nch open drain output for the function of CD LED driver.</td><td rowspan="3"><table><tr><th>Signal
Input</th><th>CD</th><th>TUNER</th><th>LINE</th><th>TAPE</th></tr><tr><td>CD</td><td>L</td><td>H</td><td>H</td><td>H</td></tr><tr><td>TUNER</td><td>H</td><td>L</td><td>H</td><td>H</td></tr><tr><td>LINE</td><td>H</td><td>H</td><td>L</td><td>H</td></tr><tr><td>TAPE</td><td>H</td><td>H</td><td>H</td><td>L</td></tr></table></td></tr>
<tr><td>31</td><td>$\overline{\text{TUNER}}$</td><td>O</td><td>Common drive Nch open drain output for the function of TU LED driver.</td></tr>
<tr><td>32</td><td>$\overline{\text{LINE}}$</td><td>O</td><td>Common drive Nch open drain output for the function of LINE LED</td></tr>
</table>

IC,TA8191F

Pin No.	Pin Name	I/O	Description
1	TPO	O	Sub-beam I-V amplifier (TP AMP) output terminal.
2	TPI	I	Sub-beam I-V amplifier (TP AMP) input terminal.
3	TNI	I	Sub-beam I-V amplifier (TP AMP) input terminal.
4	FNI	I	Main-beam I-V amplifier (FM AMP) input terminal.
5	FPI	O	Laser diode amplifier (LD AMP) input terminal.
6	LDO	O	Laser diode amplifier (LD AMP) output terminal.
7	MDI	I	Monitor photo diode amplifier (MD AMP) input terminal.
8	RFN	I	RF amplifier (RF AMP) negative-phase input terminal.
9	RFO	O	RF amplifier (RF AMP) output terminal.
10	RFI	I	RF ripple signal output terminal.
11	VREF	O	Reference voltage output terminal. (+2.1V)
12	RFRP	O	RF ripple signal output terminal.
13	SBAD	O	Scratch detection signal output terminal.
14	FEB	I	Focus error balance adjustment input terminal.
15	FEO	O	Focus error amplifier (FE AMP) output terminal.
16	SEL	I	Analog switch control signal input terminal.
17	VEE	I	Power terminal. (TA8190F: -5V; TA8191F: GND)
18	FSN	I	Focus output amplifier (FS AMP) negative-phase output terminal.
19	FSO	O	Focus output amplifier (FS AMP) output terminal.
20	COSC	I	Capacitor connection terminal for focus search signal generation.
21	OSCI	I	Built-in power supply control input terminal for focus search signal generation.
22	GND	—	GND
23	VCC	I	Power supply terminal. (+5V)
24	DMEP	I	Disk motor amplifier (DM AMP) positive-phase input terminal.
25	DMEN	I	Disk motor amplifier (DM AMP) negative-phase input terminal.
26	DMEO	O	Disk motor amplifier (DM AMP) output terminal.
27	DMPO	O	Disk motor drive amplifier (DMP AMP) output terminal. (Not used.)
28	PVR	I	Drive amplifier reference voltage input terminal.
29	FMPO	O	Feed motor drive amplifier (FMP AMP) output terminal.
30	FMEO	O	Feed motor drive amplifier (FM AMP) output terminal.
31	FMEN	I	Feed motor amplifier (FM AMP) negative-phase input terminal.
32	FMEP	I	Feed motor amplifier (FM AMP) positive-phase input terminal.
33	FAPO	O	Focus actuator drive amplifier (FAP AMP) output terminal. (Not used.)
34	2VRO	O	2VREF amplifier (2VREF AMP) output terminal.
35	2VRP	I	2VREF amplifier (2VREF AMP) positive-phase input terminal.
36	2VRN	I	2VREF amplifier (2VREF AMP) negative-phase input terminal.
37	TS2O	O	Tracking servo amplifier 2 (TS2 AMP) output terminal.
38	TS2N	I	Tracking servo amplifier 2 (TS2 AMP) negative-phase input terminal.
39	TS2P	I	Tracking servo amplifier 2 (TS2 AMP) positive-phase input terminal.
40	TS1O	O	Tracking servo amplifier 1 (TS1 AMP) output terminal.

Pin No.	Pin Name	I/O	Description
41	TS1N	I	Tracking servo amplifier 1 (TS1 AMP) negative-phase input terminal.
42	TS1P	I	Tracking servo amplifier 1 (TS1 AMP) positive-phase input terminal.
43	TSO	O	Tracking output amplifier (TS AMP) output terminal.
44	TSN	I	Tracking output amplifier (TS AMP) negative-phase input terminal.

IC,UPD6376GS

Pin No.	Pin Name	I/O	Description
1	4/8fs SEL	I	When this terminal is "Low" or open, data in L-ch and R-ch is input through pin 15 in time-division. When "High", data in L-ch is input through pin 15 and data in R-ch through pin 14 respectively. (Output is pulled-down through a resistor of 100 kohms in IC.)(GND)
2	D. GND	—	GND terminal for logic section.
3	NC	—	Not used.
4	D. +B	—	Power supply terminal for logic section. (+5V)
5	A. GND	—	GND terminal for analog section.
6	R. OUT	O	R-ch analog signal output terminal.
7	A. +B	—	Power supply terminal to analog section. (+5V)
8	A. +B		
9	R. REF	—	Reference voltage terminal. Normally connected to A.GND via capacitor so that an impedance of high frequency data is lowered.
10	L. REF		
11	L. OUT	O	L-ch analog signal output terminal.
12	A. GND	—	GND terminal for analog section.
13	LRCK	I	When pin 1 is "Low" or open, input data L/R discrimination signal is input. When "High", input data word discrimination signal is input.
14	LRSEL	I	When pin 1 is "Low" or open, L or R channel is selected for the LRCK signal. When the LRCK signal is "High" and L-ch data is input, the LRSEL terminal is "Low". When "Low" and L-ch data is input, the LRSEL terminal is "High". When pin 1 is "High", R-ch serial data is input. (+5V)
15	SI	I	When pin 1 is "Low" or open, L-ch and R-ch serial data is input alternatively. When "High", L-ch serial data is input.
16	CLK	I	Serial input data read-in clock input terminal.

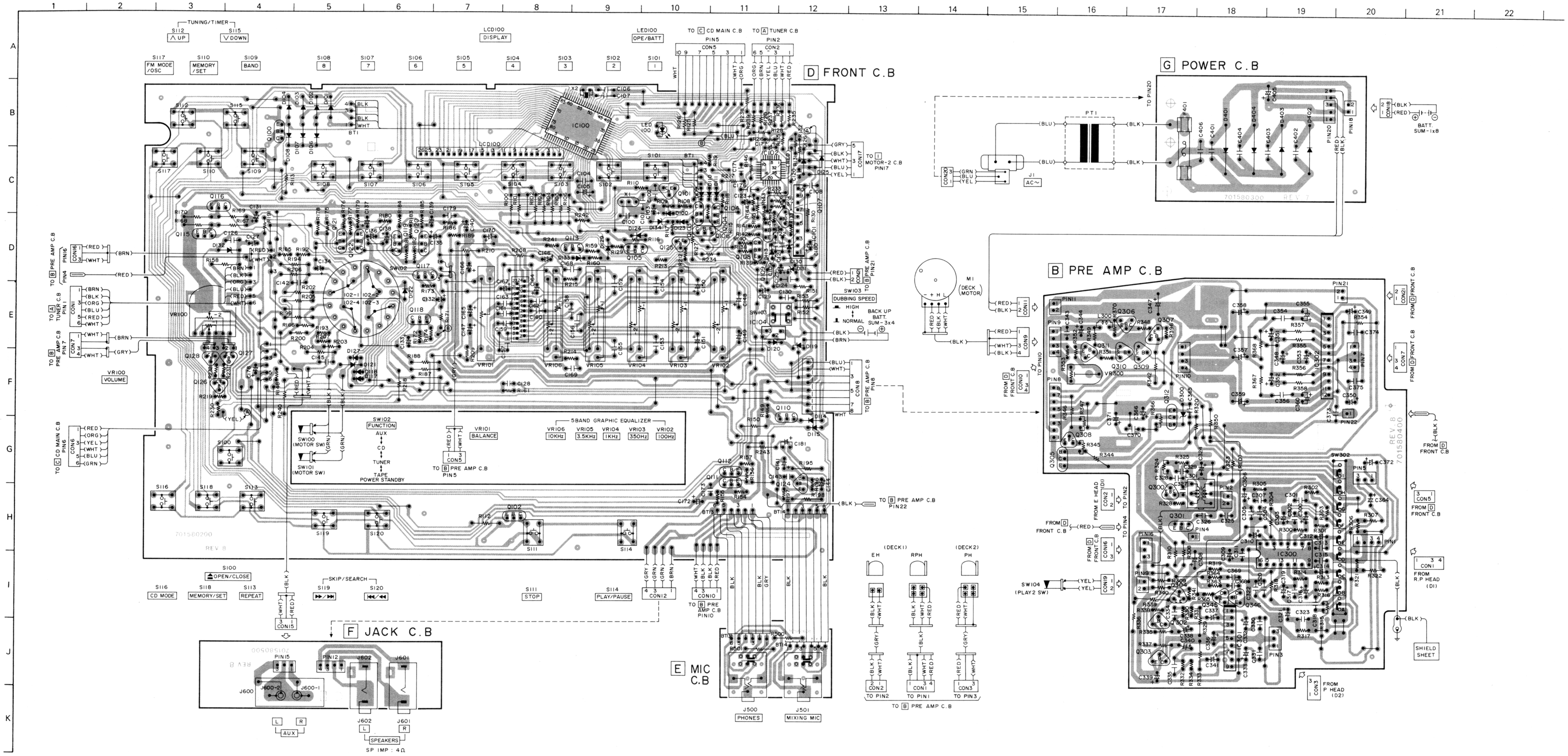
IC,TC9236F

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>$\overline{\text{TEST4}}$</td><td>I</td><td>Test terminal. Normally "H" or open. (Not used.)</td></tr>
<tr><td>2</td><td>$\overline{\text{TEST5}}$</td><td>I</td><td>Test terminal. Normally "H" or open. (Not used.)</td></tr>
<tr><td>3</td><td>CK8M</td><td>O</td><td>8M clock output terminal. (Not used.)</td></tr>
<tr><td>4</td><td>COFS</td><td>O</td><td>Correction sytem frame frequency signal output terminal. 7.35kHz (Not used.)</td></tr>
<tr><td>5</td><td>SPDA</td><td>O</td><td>Processor status signal output terminal.
Correction/discrimination data, memory buffer capacity, etc. (Not used.)</td></tr>
<tr><td>6</td><td>PFCK</td><td>O</td><td>Playback system frame frequency signal output terminal. 7.35kHz (Not used.)</td></tr>
<tr><td>7</td><td>SUBSYC</td><td>O</td><td>Subcode sync signal output terminal. (Not used.)</td></tr>
<tr><td>8</td><td>SUBQ</td><td>O</td><td>Subcode Q data output terminal. (Not used.)</td></tr>
<tr><td>9</td><td>SBOK</td><td>O</td><td>Subcode Q data CRC check data output terminal. OK when "H". (Not used.)</td></tr>
<tr><td>10</td><td>XI</td><td>I</td><td rowspan="2">Crystal oscillator connection terminal.</td></tr>
<tr><td>11</td><td>XO</td><td>O</td></tr>
<tr><td>12</td><td>DVCC</td><td>—</td><td>Digital power voltage terminal. (+5V)</td></tr>
<tr><td>13</td><td>DGND</td><td>—</td><td>Digital GND terminal.</td></tr>
<tr><td>14
≀
17</td><td>BUS0
≀
BUS3</td><td>I/O</td><td>Command and data send/receive I/O terminal.</td></tr>
<tr><td>18</td><td>$\overline{\text{CCE}}$</td><td>I</td><td>Chip enable signal input terminal for command and data send/recieve.
Bus line active when "L".</td></tr>
<tr><td>19</td><td>BUCK</td><td>I</td><td>Command and data send/receive clock input terminal.</td></tr>
<tr><td>20</td><td>4MCK</td><td>O</td><td>4M clock output terminal. 4.2366MHz (Not used.)</td></tr>
<tr><td>21</td><td>$\overline{\text{RST}}$</td><td>I</td><td>Reset input terminal. Internal system reset when "L".</td></tr>
<tr><td>22</td><td>CCNT</td><td>I</td><td>Subcode Q data control bit update inhibition signal input terminal.
Update inhibitted when "H". (GND)</td></tr>
<tr><td>23</td><td>SUBO</td><td>O</td><td>Subcode P - W output terminal. (Not used.)</td></tr>
<tr><td>24</td><td>CLCK</td><td>I</td><td>Subcode P - W data read-out clock input terminal.</td></tr>
<tr><td>25</td><td>LOCK</td><td>O</td><td>Lock status output terminal. "L" when sync pattern siganal in EFM signal is not detected within 17 ms in runaway detection. (Not used.)</td></tr>
<tr><td>26</td><td>$\overline{\text{TEST1}}$</td><td>I</td><td>Test terminal. Normally "H" or open. (Not used.)</td></tr>
<tr><td>27</td><td>DFCT</td><td>O</td><td>Defect detection signal output terminal. VREF when a defect signal is detected: Normally HiZ. (Not used.)</td></tr>
<tr><td>28</td><td>TEL2</td><td rowspan="2">O</td><td rowspan="2">Tracking gain adjustment analog switch output terminal. VREF or HiZ.</td></tr>
<tr><td>29</td><td>TEL1</td></tr>
<tr><td>30</td><td>TGUL</td><td>O</td><td>Analog switch output terminal for switching the low range phase compensator of the tracking servo loop.
HiZ (gain up) when shock signal is detected; VREF when gain up.</td></tr>
<tr><td>31</td><td>TGUH2</td><td rowspan="2">O</td><td rowspan="2">Analog switch output terminal for switching the middle and high range phase compensator of the tracking servo loop. HiZ (gain up) when shock signal is detected; normally VREF. TGUH1 is used when playing back in normal mode; TGUH2 when playing back in high speed mode. (Pin ㉛ is not used.)</td></tr>
<tr><td>32</td><td>TGUH1</td></tr>
<tr><td>33</td><td>TKIC</td><td>O</td><td>Tracking actuator kick signal output terminal.
Kicked to an external cylinder when "H"; an internal cylinder when "L".</td></tr>
<tr><td>34</td><td>FMON</td><td rowspan="2">O</td><td rowspan="2">Feed servo ON/OFF analog switch output terminal. (Pin ㉟ is not used.)<table><tr><td>Feed servo</td><td>FMON</td><td>$\overline{\text{FMON}}$</td></tr><tr><td>ON</td><td>HiZ</td><td>VREF</td></tr><tr><td>OFF</td><td>VREF</td><td>HiZ</td></tr></table></td></tr>
<tr><td>35</td><td>$\overline{\text{FMON}}$</td></tr>
</table>

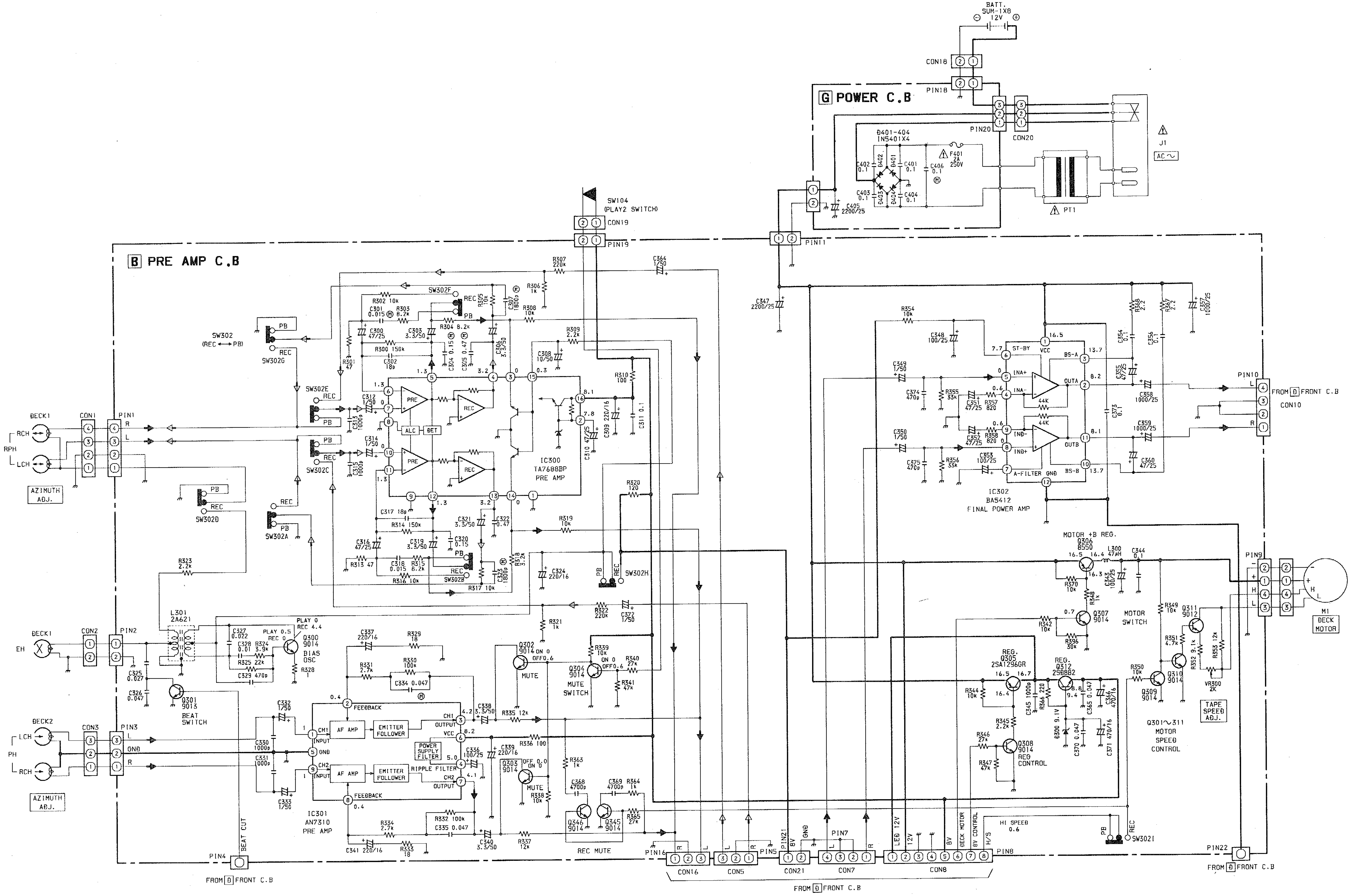
<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>36</td><td>FMFB</td><td>O</td><td>Feed motor FWD/BWD operation control signal output terminal.
Feeds to an external cylinder when "H"; feeds to an internal cylinder when "L".</td></tr>
<tr><td>37</td><td>$\overline{\text{TEST}}$</td><td>I</td><td>Test terminal. Normally "H" or open. (Not used.)</td></tr>
<tr><td>38</td><td>DMON</td><td>O</td><td>Analog switch output terminal for switching the gain of the disk motor drive</td></tr>
<tr><td>39</td><td>DMFC</td><td>O</td><td>Disk motor CLV servo AFC signal output terminal.
<table>
<tr><th>Command</th><th>DMFC output</th><th>Operation</th></tr>
<tr><td>DMFK</td><td>H</td><td>Motor accelerated</td></tr>
<tr><td>DNSV</td><td>PWM</td><td>CLV servo ON</td></tr>
<tr><td>DMBK</td><td>L</td><td>Motor decelerated</td></tr>
<tr><td>DMOFF</td><td>VREF</td><td>CLV servo OFF</td></tr>
</table></td></tr>
<tr><td>40</td><td>DMPC</td><td>O</td><td>Disk motor CLV servo APC signal output terminal.</td></tr>
<tr><td>41</td><td>2VREF</td><td>I</td><td>Two times reference voltage input terminal. (VREF x 2)</td></tr>
<tr><td>42</td><td>SEL</td><td>O</td><td>Servo mode indication signal output terminal.
<table>
<tr><th>SEL</th><th>LD ON/OFF</th><th>Focus servo</th><th>Operation mode</th></tr>
<tr><td>L</td><td>OFF</td><td>ON</td><td>LD OFF</td></tr>
<tr><td>HiZ</td><td>ON</td><td>OFF</td><td>Focus search</td></tr>
<tr><td>H</td><td>ON</td><td>ON</td><td>Normal PLAY etc.,
(Focus servo ON: FOK)</td></tr>
</table></td></tr>
<tr><td>43</td><td>FCSI</td><td>O</td><td>Focus actuator drive signal output terminal in focus search mode.
<table>
<tr><th>Command</th><th>FKIC output</th><th>Operation</th></tr>
<tr><td>FGASR</td><td>H</td><td>Lens distant from disk</td></tr>
<tr><td>FGSS</td><td>L</td><td>Lens near disk</td></tr>
<tr><td>Others</td><td>HiZ</td><td>than focus search</td></tr>
</table></td></tr>
<tr><td>44</td><td>FKIC</td><td>O</td><td>Focus actuator drive signal output terminal in focus gain adjustment mode.
(Not used.)
<table>
<tr><th>Command</th><th>FKIC output</th><th>Operation</th></tr>
<tr><td>FGASR</td><td>H</td><td>Lens distant from disk</td></tr>
<tr><td>FGSS</td><td>L</td><td>Lens near disk</td></tr>
<tr><td>Other</td><td>HiZ</td><td>Other than focus gain adjustment</td></tr>
</table></td></tr>
<tr><td>45</td><td>FEL2</td><td rowspan="2">O</td><td rowspan="2">Focus gain adustment analog switch output termianal. (Not used.)</td></tr>
<tr><td>46</td><td>FEL1</td></tr>
<tr><td>47</td><td>FEI</td><td>I</td><td>Focus error signal input terminal.</td></tr>
<tr><td>48</td><td>TESH</td><td>I</td><td>Analog switch input terminal for sample-holding of the tracking error signal.</td></tr>
<tr><td>49</td><td>TEOF</td><td>O</td><td>Analog switch input terminal for tracking servo ON/OFF. VFEF when tracking servo is OFF.</td></tr>
<tr><td>50</td><td>SBAD</td><td>I</td><td>Sub-beam add signal input terminal.</td></tr>
<tr><td>51</td><td>RFRP</td><td>I</td><td>RF ripple signal input terminal.</td></tr>
<tr><td>52</td><td>VREF</td><td>I</td><td>Reference voltage input terminal. (+2.2V)</td></tr>
<tr><td>53</td><td>RFI</td><td>I</td><td>RF signal input terminal.</td></tr>
<tr><td>54</td><td>AGND</td><td>—</td><td>Analog GND terminal.</td></tr>
<tr><td>55</td><td>DTSC2</td><td>O</td><td>EFM signal negative-phase output terminal for data slice control.</td></tr>
<tr><td>56</td><td>EFMO</td><td>O</td><td>EFM signal monitor output terminal. (Not used.)</td></tr>
<tr><td>57</td><td>DTSC1</td><td>O</td><td>EFM signal positive-phase output terminal for data slice control.</td></tr>
<tr><td>58</td><td>AVCC</td><td>—</td><td>Analog power voltage terminal. (+5V)</td></tr>
<tr><td>59</td><td>PDCNT</td><td>I</td><td>PDO output control terminal. PDO output is involuntarily set to HiZ when "L".</td></tr>
<tr><td>60</td><td>PDO</td><td>O</td><td>Output terminal for phase difference signal between EFM and PLCK signals.</td></tr>
</table>

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>61</td><td>TMAX</td><td>O</td><td>TMAX signal output terminal. HiZ in system clock.
<table>
<tr><th>TMAX cycle</th><th>TMAX output</th></tr>
<tr><td>Longer than specified cycle</td><td>L</td></tr>
<tr><td>Shorter than specified cycle</td><td>L</td></tr>
<tr><td>Specified cycle</td><td>HiZ</td></tr>
</table></td></tr>
<tr><td>62</td><td>LPFN</td><td>I</td><td>LPF amplifier negative-phase input terminal for PLL.</td></tr>
<tr><td>63</td><td>LPFO</td><td>O</td><td>LPF amplifier output terminal for PLL.</td></tr>
<tr><td>64</td><td>VCOF</td><td>I</td><td>VCO filter terminal.</td></tr>
<tr><td>65</td><td>VCOX</td><td>I</td><td>External VCO clock input terminal. (GND)</td></tr>
<tr><td>66</td><td>PLCK</td><td>O</td><td>Playback data read clock output terminal. (Not used.)</td></tr>
<tr><td>67</td><td>MOD0</td><td rowspan="3">I</td><td rowspan="3">Internal operation mode setting input terminal. (GND)</td></tr>
<tr><td>68</td><td>MOD1</td></tr>
<tr><td>68</td><td>MOD2</td></tr>
<tr><td>70</td><td>WDCK</td><td>O</td><td>Word clock output terminal. Normally 88.2kHz. (Not used.)</td></tr>
<tr><td>71</td><td>CHCK</td><td>O</td><td>Channel clock output terminal. Normally 44.1kHz.</td></tr>
<tr><td>72</td><td>BCK</td><td>O</td><td>Bit clock output terminal. Normally 1.4112MHz.</td></tr>
<tr><td>73</td><td>AOUT</td><td>O</td><td>Audio data output terminal.</td></tr>
<tr><td>74</td><td>CKSE</td><td>I</td><td>Internal clock selection terminal. (+5V)</td></tr>
<tr><td>75</td><td>DOUT</td><td>O</td><td>Digital OUT output terminal. (Not used.)</td></tr>
<tr><td>76</td><td>$\overline{\text{TEST2}}$</td><td>I</td><td>Test terminal. Normally "H" or open. (Not used.)</td></tr>
<tr><td>77</td><td>$\overline{\text{HS}}$</td><td>O</td><td>High-speed monitor output terminal. High-speed mode when "L". (Not used.)</td></tr>
<tr><td>78</td><td>EMPH</td><td>O</td><td>Emphasis ON/OFF indication signal output terminal. Emphasis ON when "H".</td></tr>
<tr><td>79</td><td>$\overline{\text{TEST3}}$</td><td>I</td><td>Test terminal. Normally "H" or open. (Not used.)</td></tr>
<tr><td>80</td><td>MCK</td><td>O</td><td>Master clock output terminal. (Not used.)</td></tr>
</table>

WIRING – 1 (PRE AMP/FRONT)



SCHEMATIC DIAGRAM – 1 (PRE AMP)



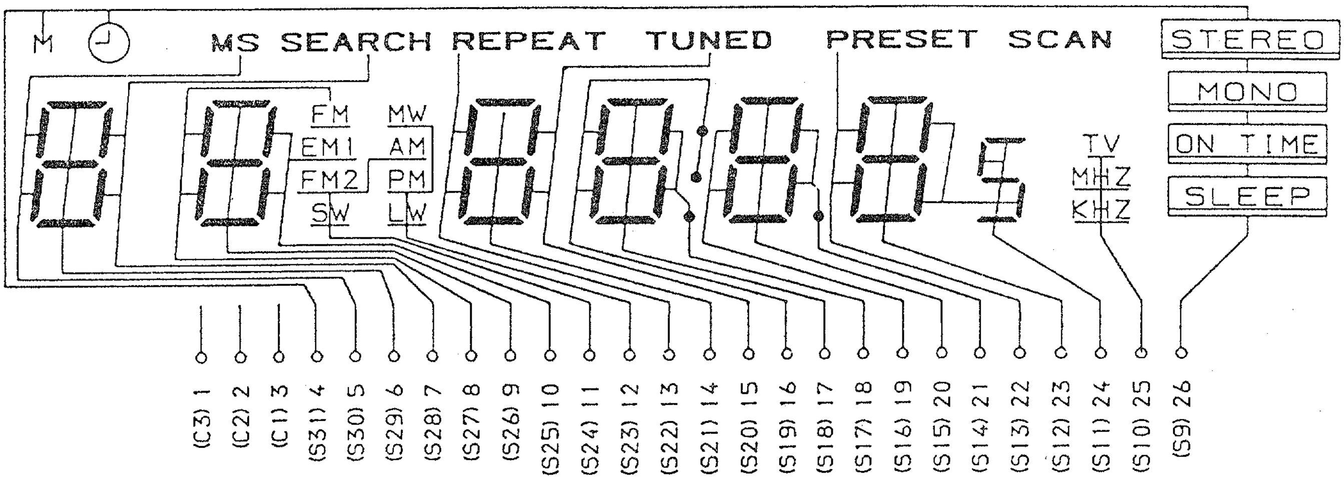
IC DESCRIPTION – 2

IC,TMP47C820F – N831

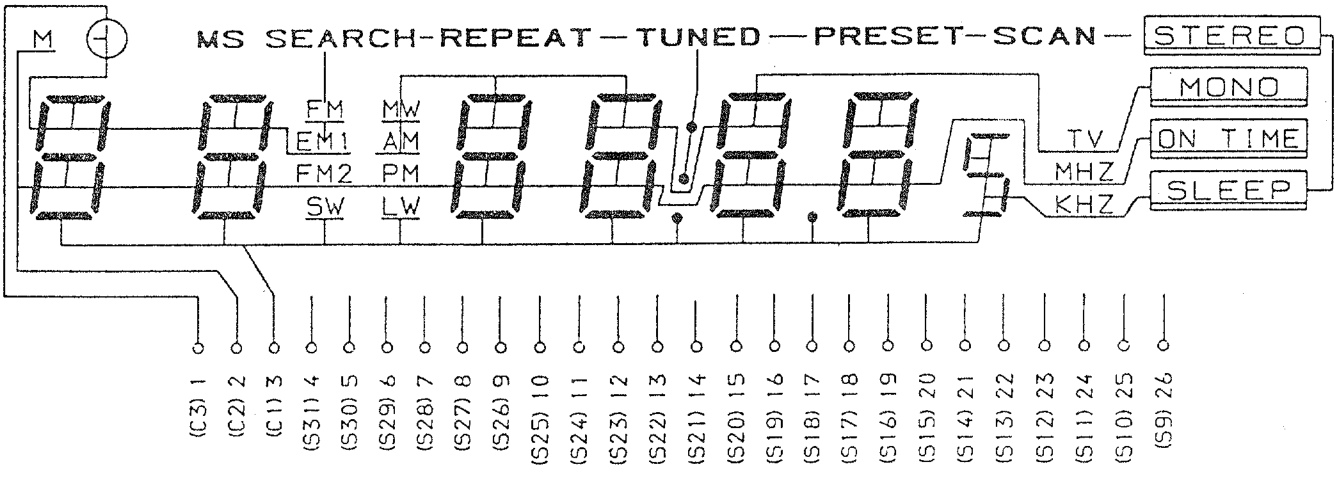
Pin No.	Pin Name	I/O	Description
1 ～ 4	SEG28 ～ SEG31	O	Segment output terminal for LCD.
5 ～ 7	COM1 ～ COM3	O	Common output terminal for LCD.
8	COM4	—	Not used.
9	N. C	—	Not used.
10	VLC	I	LCD drive voltage setting. Normal: VSS level (GND)
11	P10	O	Power switch (ON = "H").
12 ～ 14	$\overline{\text{KO1}}$ ～ $\overline{\text{KO3}}$	O	Key matrix output port.
15	VSS	—	GND
16 ～ 19	$\overline{\text{KO4}}$ ～ $\overline{\text{KO7}}$	O	Key matrix output port.
20	TEST	—	Not used.
21	X IN	I	4.19 MHz clock oscillation input.
22	X OUT	O	4.19 MHz clock oscillation output.
23	$\overline{\text{RESET}}$	I	Reset signal input. ("L" when reset.)
24	$\overline{\text{HOLD}}$	I	Hold signal input. (+5V)
25 ～ 28	$\overline{\text{KI1}}$ ～ $\overline{\text{KI4}}$	I	Key matrix input port.
29	$\overline{\text{REMOTE}}$	—	Wireless remote control input. (Not used.)
30	T2	O	Power VOL DOWN. (Not used.)
31	$\overline{\text{INT1}}$	O	Power VOL UP. (Not used.)
32	MUTE	O	Muting output. ("L" when the mute is on.)
33	VDD	—	+5V power supply.
34	S1	I	Tuner data input.
35	S0	O	Tuner data output.
36	SCLK	O	Tuner data clock.
37 ～ 40	BUS0 ～ BUS3	I/O	Send/receive bus line to/from CD processor. (Not used.)
41	$\overline{\text{CCE}}$	I/O	Command and data processing control I/O.
42	BUCK	O	Command and data send/receive clock output.
43	$\overline{\text{PUINNER}}$	I	Detects that the pickup is positioned at the most internal cylinder. Most internal cylinder when "L".
44	$\overline{\text{DOOR}}$	I	CD door OPEN/CLOSE detection. CLOSE when "L" (+5V).
45	$\overline{\text{CD}}$	I	Function CD. CD when "L".

Pin No.	Pin Name	I/O	Description
46	$\overline{\text{TUNER}}$	I	Function TUNER. TUNER when "L".
47	$\overline{\text{CD RESET}}$	I	CD circuit initialize signal input. (Reset when "L".)
48	REC	I	Tape recorder REC operation detection signal. (GND)
49	R70	O	Tape recorder synchronization stop output. Stop when "L". (Not used.)
50	PLLCE	O	Tuner CE. Controls the tuner PLL IC.
51	X IN	I	32.768kHz clock oscillation input for display.
52	X OUT	O	32.768kHz clock oscillation output for display. (Not used.)
53 ≀ 61	SEG 0 ≀ SEG 8	O	Not used.
62 ≀ 80	SEG 9 ≀ SEG 27	O	Segment output terminal for LCD display.

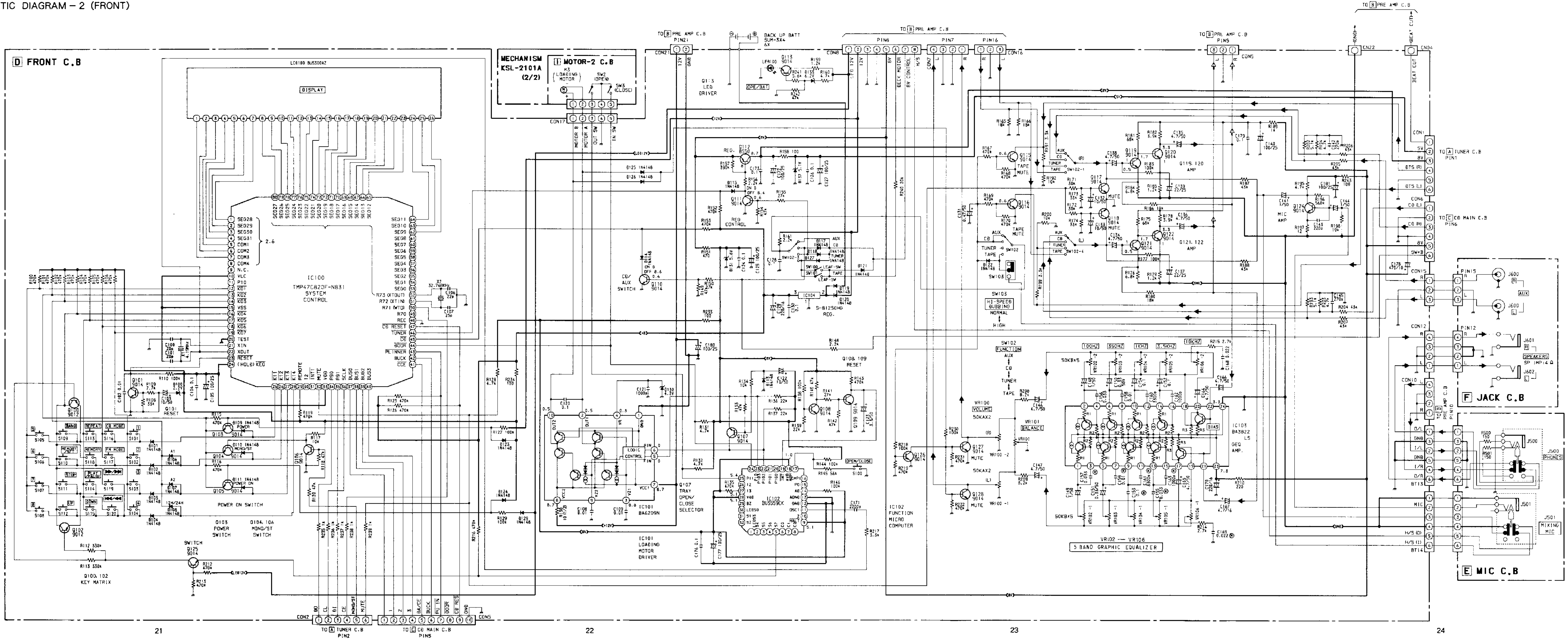
LCD SEGMENT (LCD100)



LCD COMMON (LCD100)

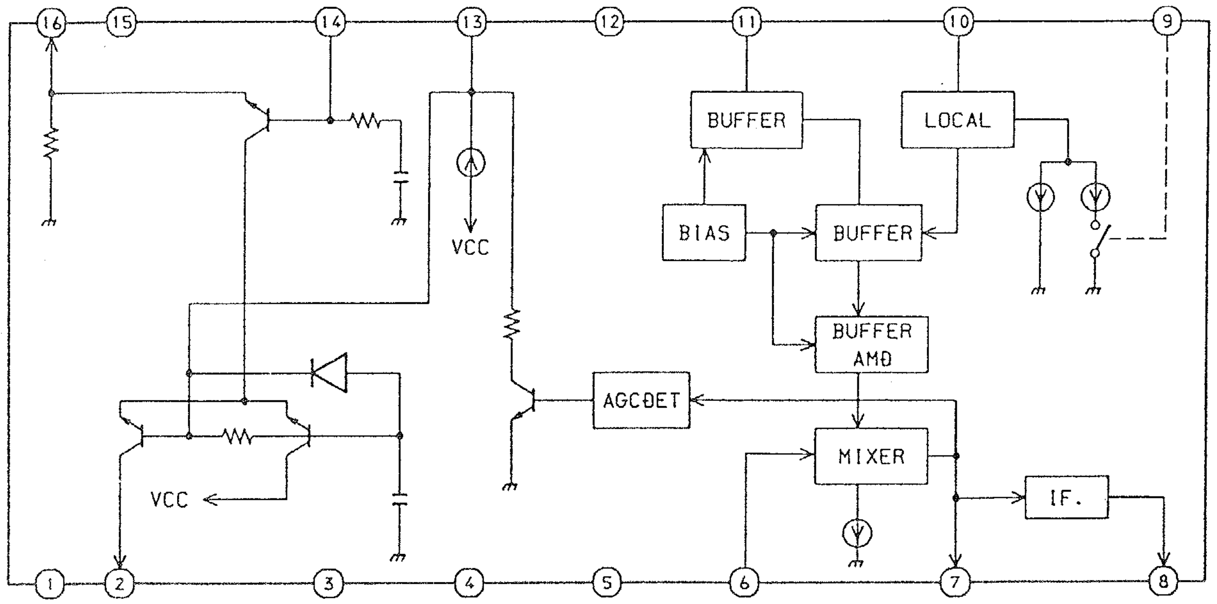


SCHEMATIC DIAGRAM – 2 (FRONT)

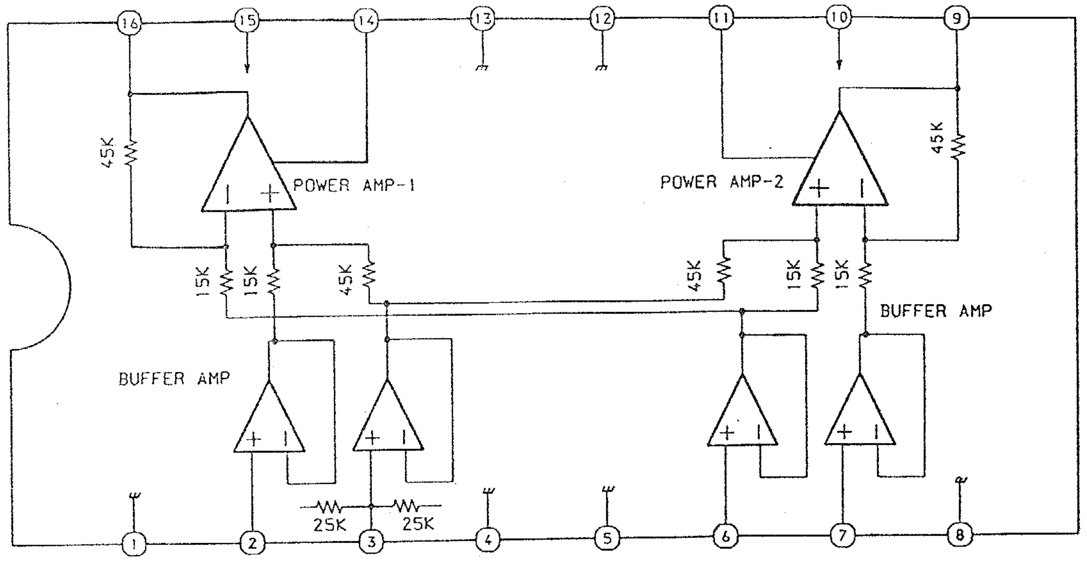


IC BLOCK DIAGRAM

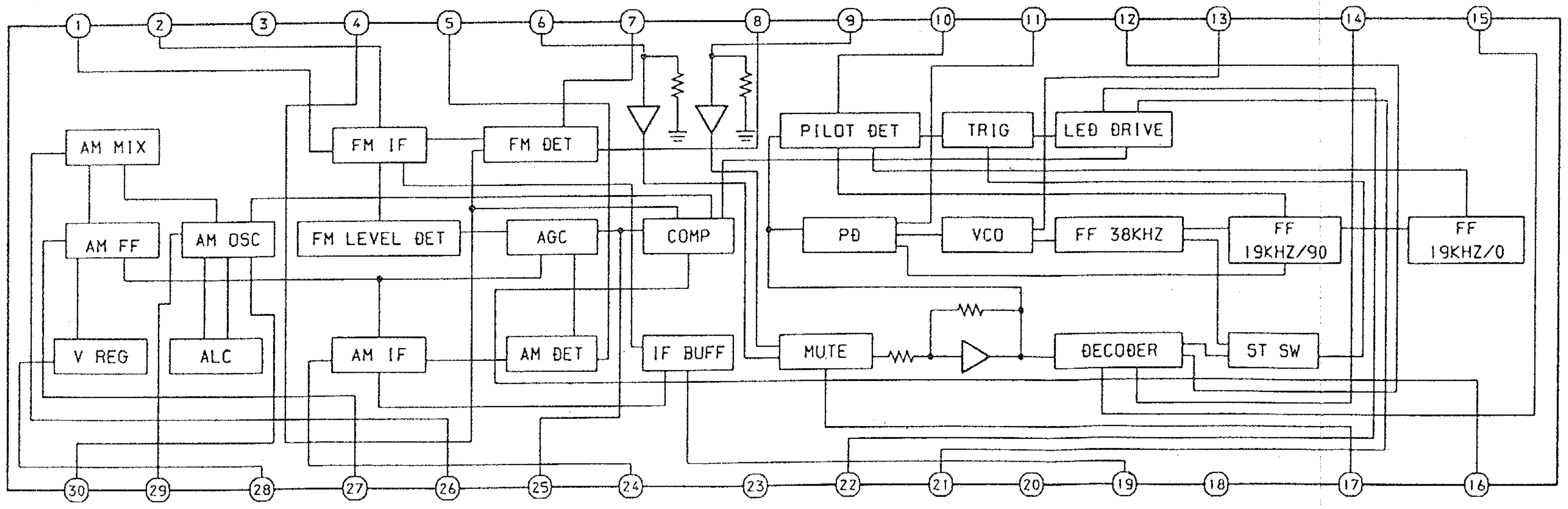
IC,TA8176F



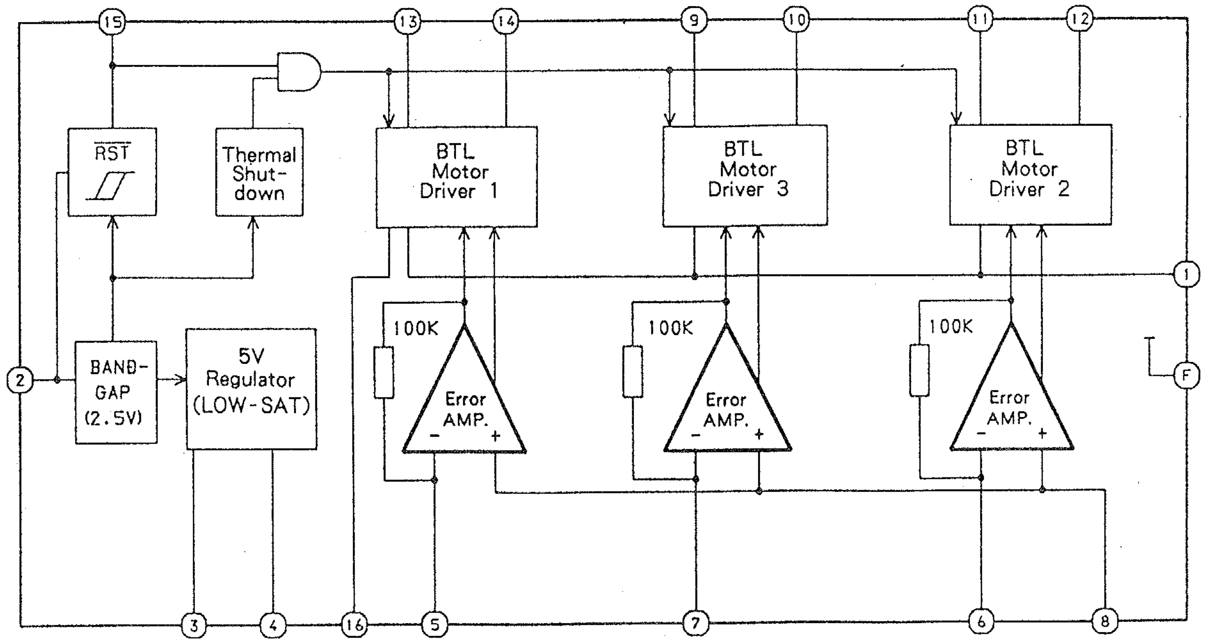
IC,TA8102P



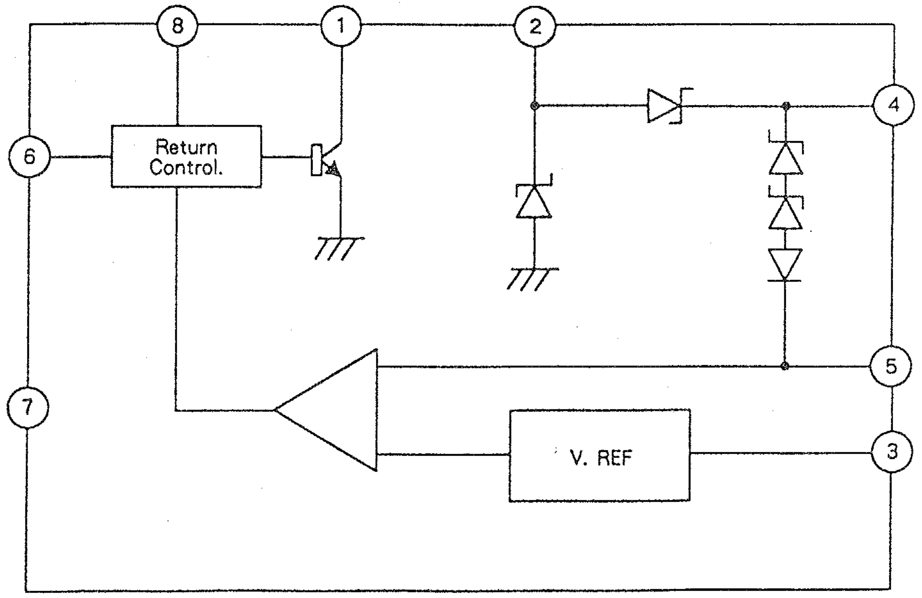
IC,LA1851N



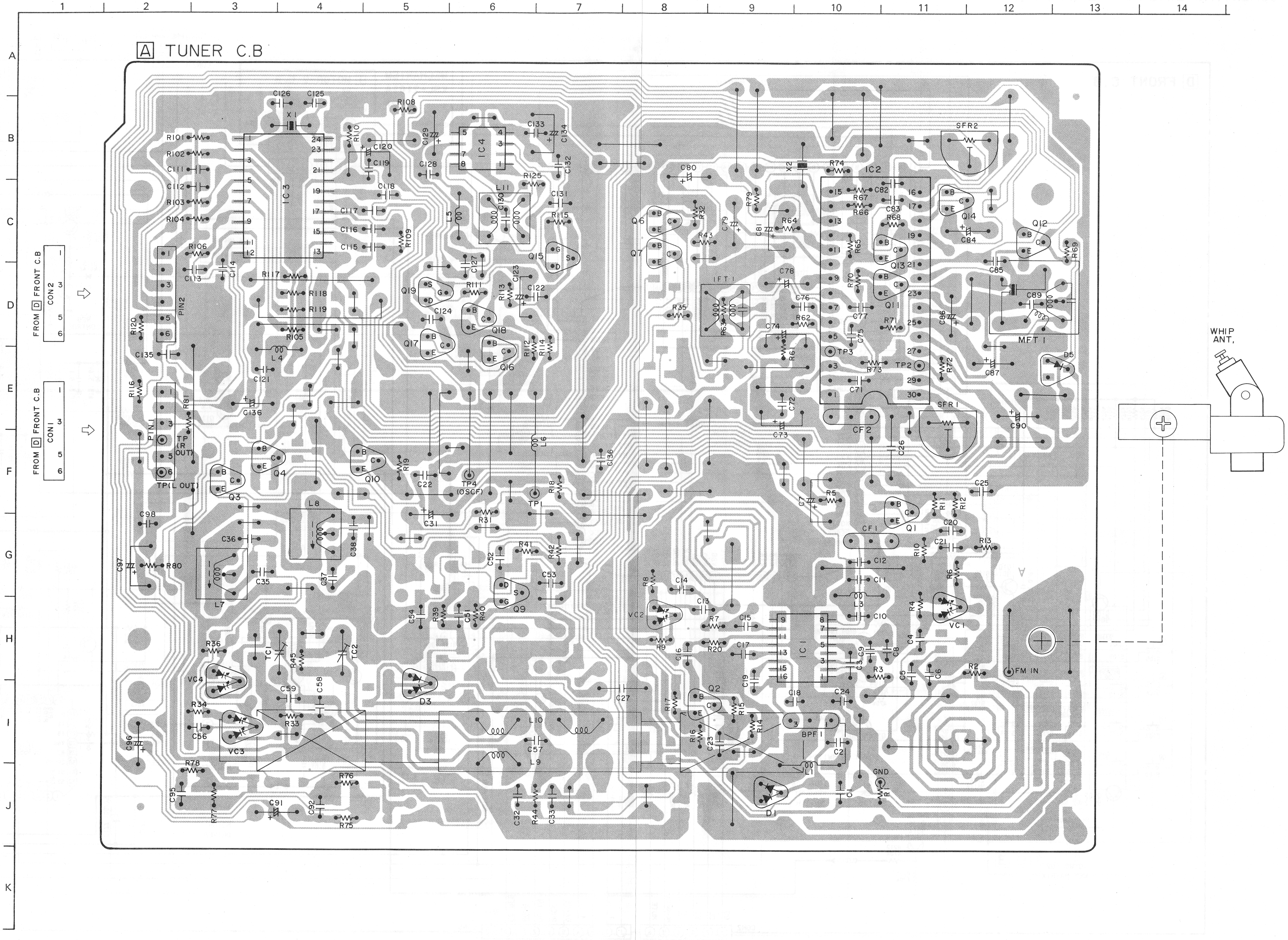
IC,AN8377N



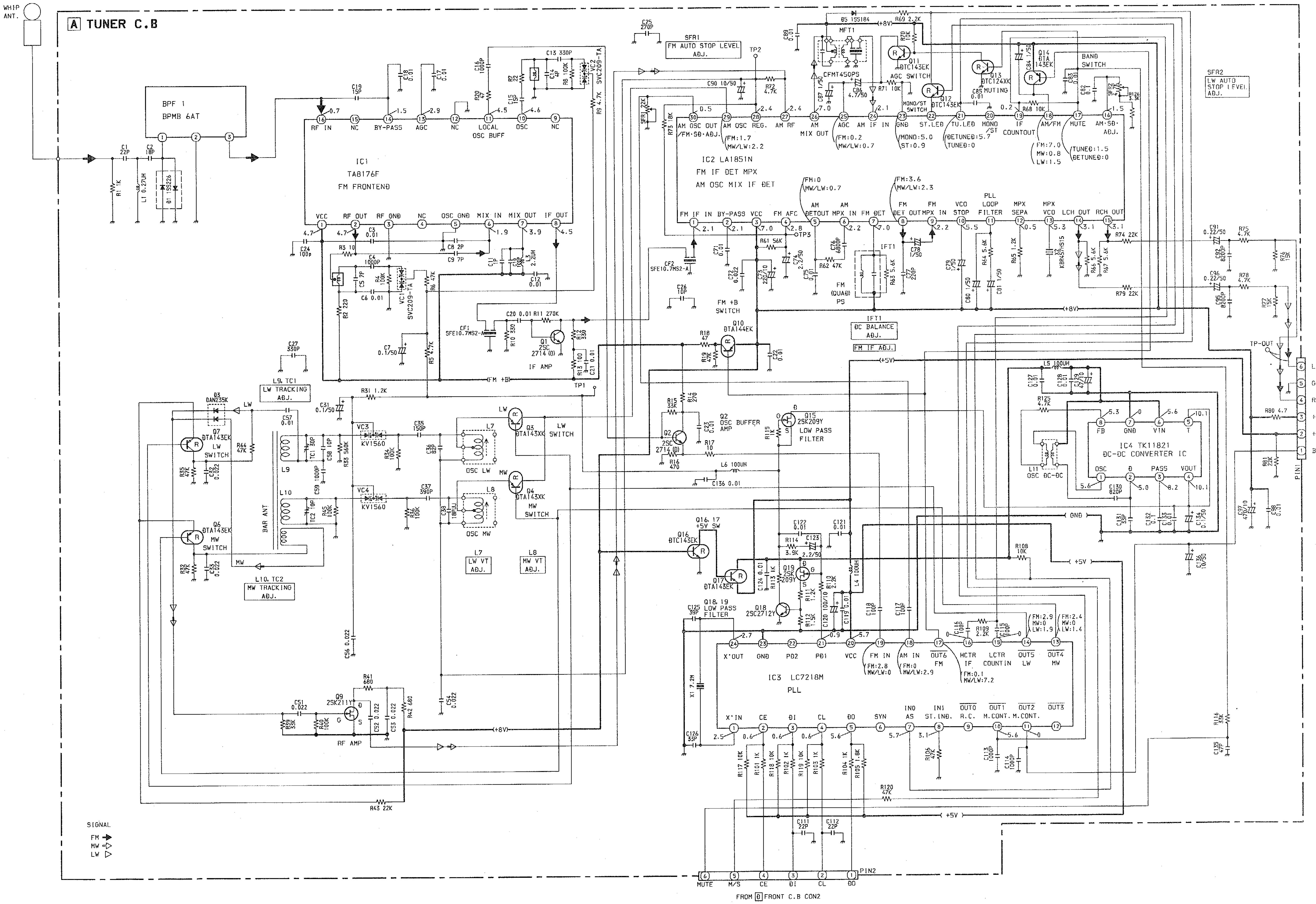
IC,TC11821



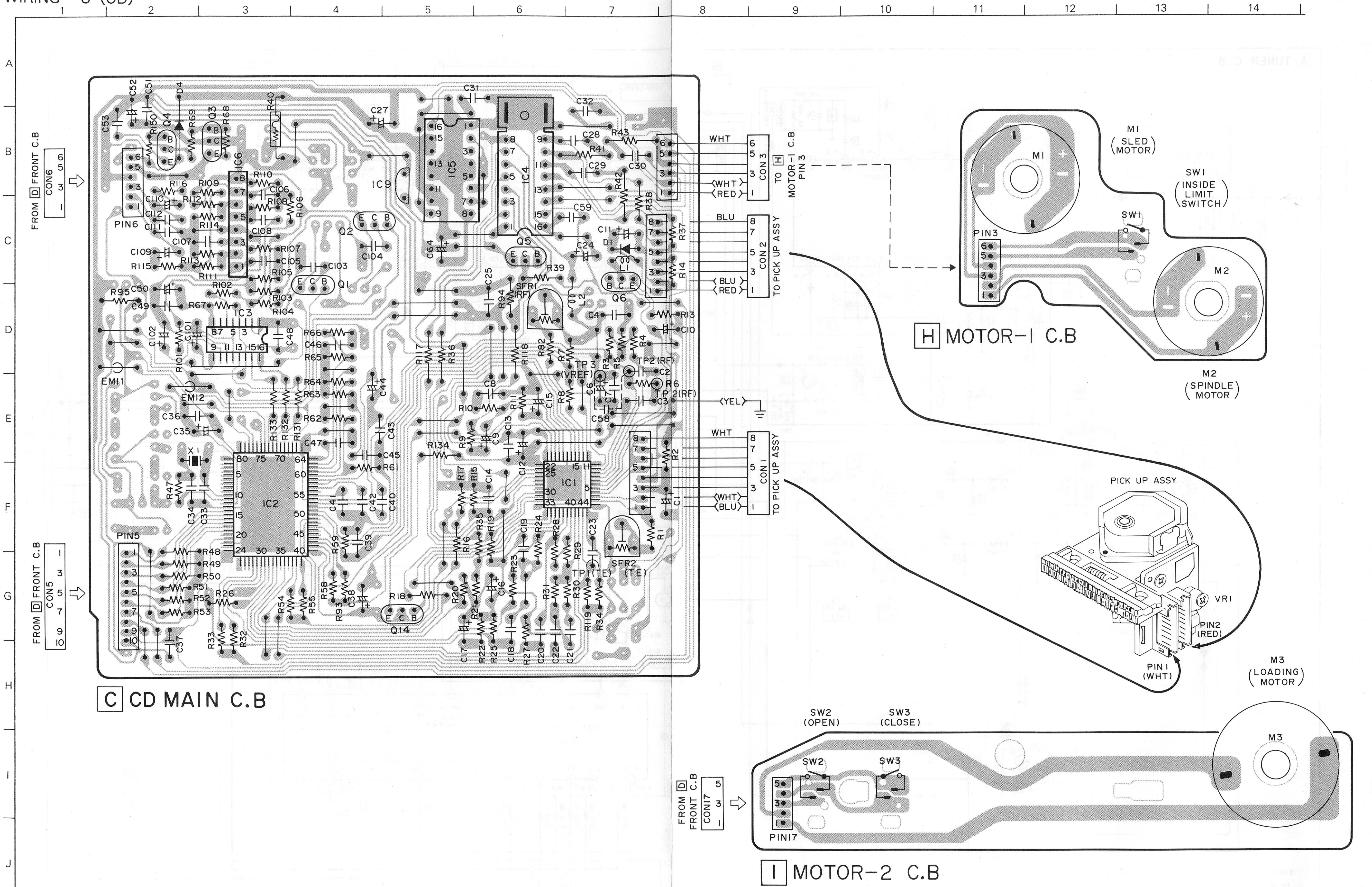
WIRING – 2 (TUNER)



SCHEMATIC DIAGRAM – 3 (TUNER)

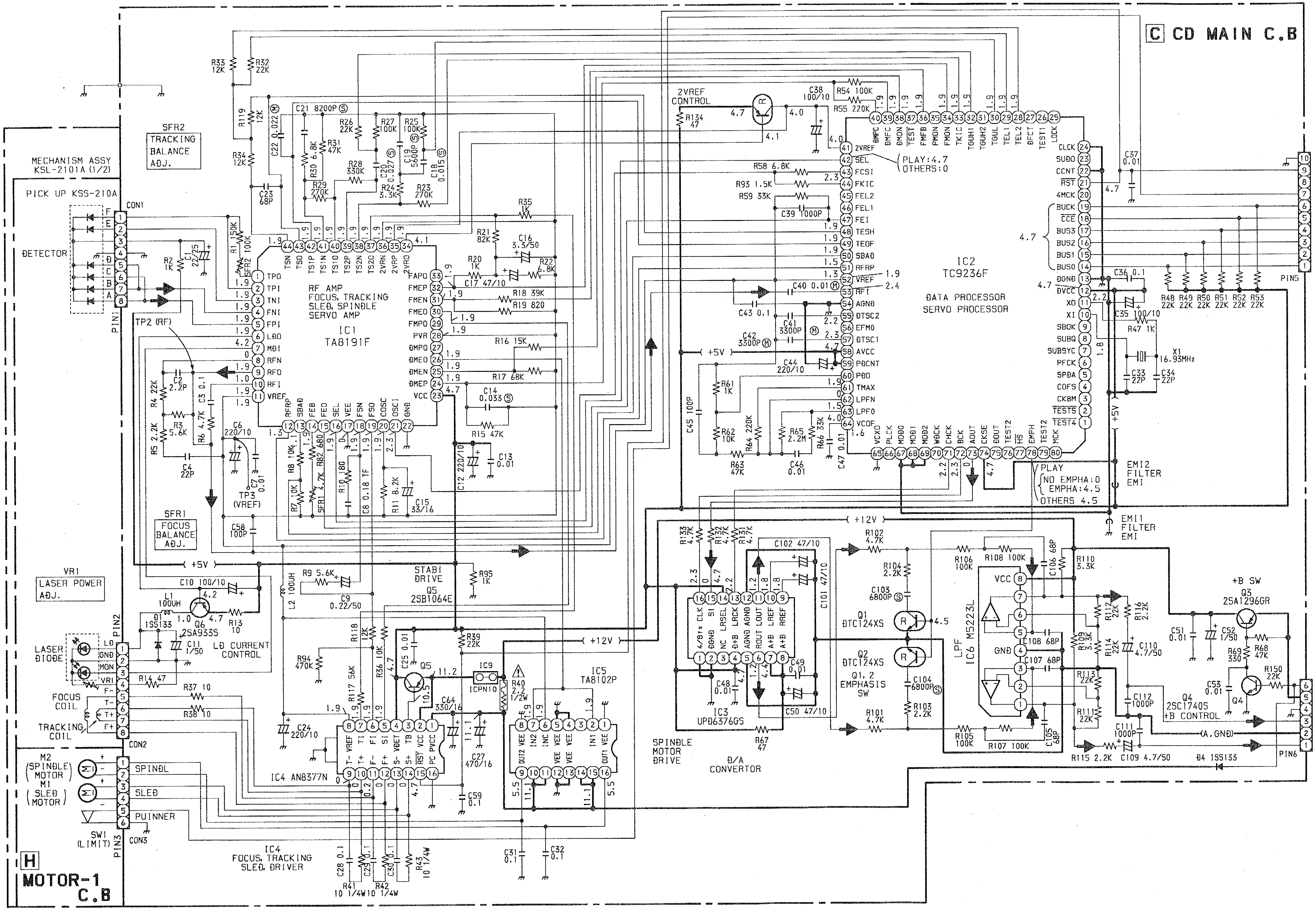


WIRING – 3 (CD)



1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
FROM D FRONT C.B
CON6
6
5
3
1
PIN6
FROM D FRONT C.B
CON5
1
3
5
7
9
10
PIN5
IC2
IC1
IC3
IC4
IC5
IC6
IC9
Q1
Q2
Q3
Q4
Q5
Q6
Q14
D1
D4
X1
EMI1
EMI2
L1
L2
SFR1 (RF)
SFR2 (TE)
TP1 (TE)
TP2 (RF)
TP3 (VREF)
TP 2(RF)
WHT
WHT
RED
CON 3
TO H MOTOR-1 C.B PIN 3
BLU
BLU
RED
CON 2
TO PICK UP ASSY
YEL
WHT
WHT
BLU
CON 1
TO PICK UP ASSY
C CD MAIN C.B
M1 (SLED MOTOR)
SW1 (INSIDE LIMIT SWITCH)
M1
SW1
PIN3
M2
M2 (SPINDLE MOTOR)
H MOTOR-1 C.B
PICK UP ASSY
VR1
PIN2 (RED)
PIN1 (WHT)
M3 (LOADING MOTOR)
SW2 (OPEN)
SW3 (CLOSE)
SW2
SW3
M3
FROM D FRONT C.B
CON17
5
3
1
PIN17
I MOTOR-2 C.B

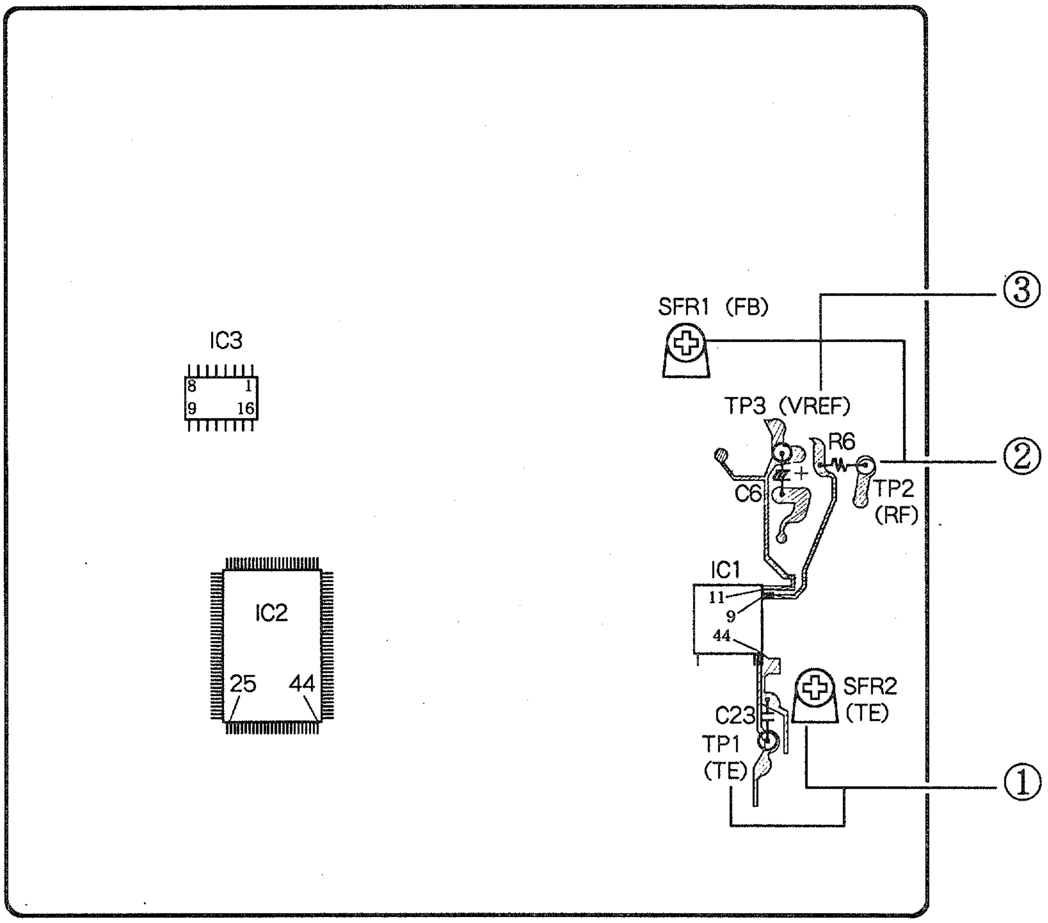
SCHEMATIC DIAGRAM – 4 (CD)



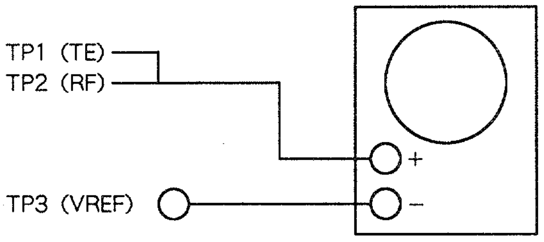
ADJUSTMENT

< CD SECTION >

C CD MAIN C.B



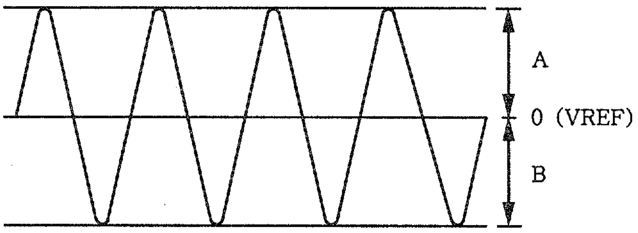
Connecting the Oscilloscope



Oscilloscope (DC range)

Connect the nagative side (−) of an oscilloscope to TP3 (VREF) when making adjustment.

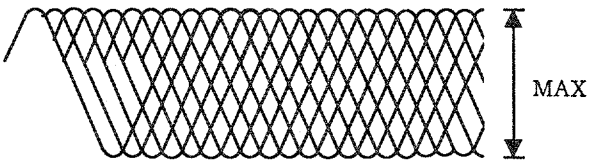
1. Tracking Balance Adjustlment
   (1) Connect an oscilloscope to TP1 (TE) and TP3 (VREF).
   (2) Insert the YEDS-18 (YEDS-1) disc and push the PLAY button.
   (3) Push the REPEAT button to set to the REPEAT mode.
   (4) Push and hold the ▶▶| button. (MS mode).
   (5) Adjust SFR2 (TB) to symmetrize the traverse waveform the to base line.



A = B

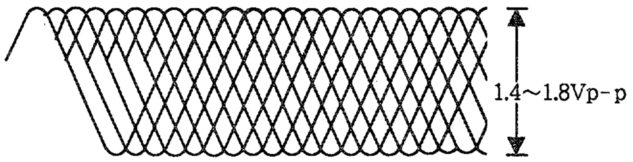
VOLT/DIV : 20mV
TIME/DIV : 0.5 μS

2. Focus Balance Adjustment
   (1) Connect an oscilloscope to TP2 (RF) and TP3 (VREF).
   (2) Insert the YEDS-18 (YEDS-1) disc and push the PLAY button.
   (3) Adjust SFR1 (FB) so that the amplitude of the oscilloscope waveform is maximum.



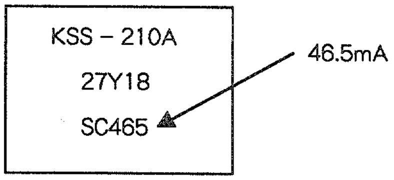
VOLT/DIV : 20mV
TIME/DIV : 0.2 μS

3. Laser Power Adjustment
   (1) Connect an oscilloscope to TP2 (RF) and TP3 (VREF).
   (2) Insert the YEDS-18 (YEDS-1) disc and push the PLAY button.
   (3) Adjust VR1 on the optical block so that the amplitude 1.4~1.8Vp-p.



VOLT/DIV : 20mV
TIME/DIV : 0.2 μS

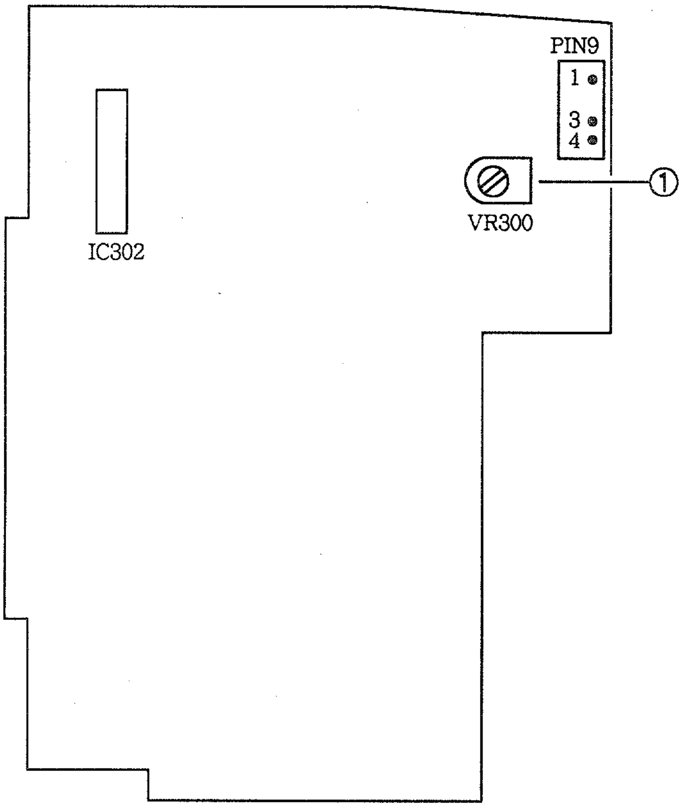
Note : Check the laser current at TP4 (across R13, 10 ohms).
The current must fall within ±6.0mA of the value shown in the label on the laser pick-up.



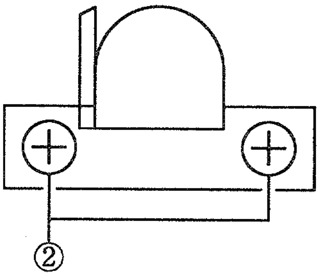
$$\text{Laser current Iop} = \frac{\text{Voltage across R13}}{10\,\Omega}$$

< DECK SECTION >

B PRE AMP C.B



RPH/PH

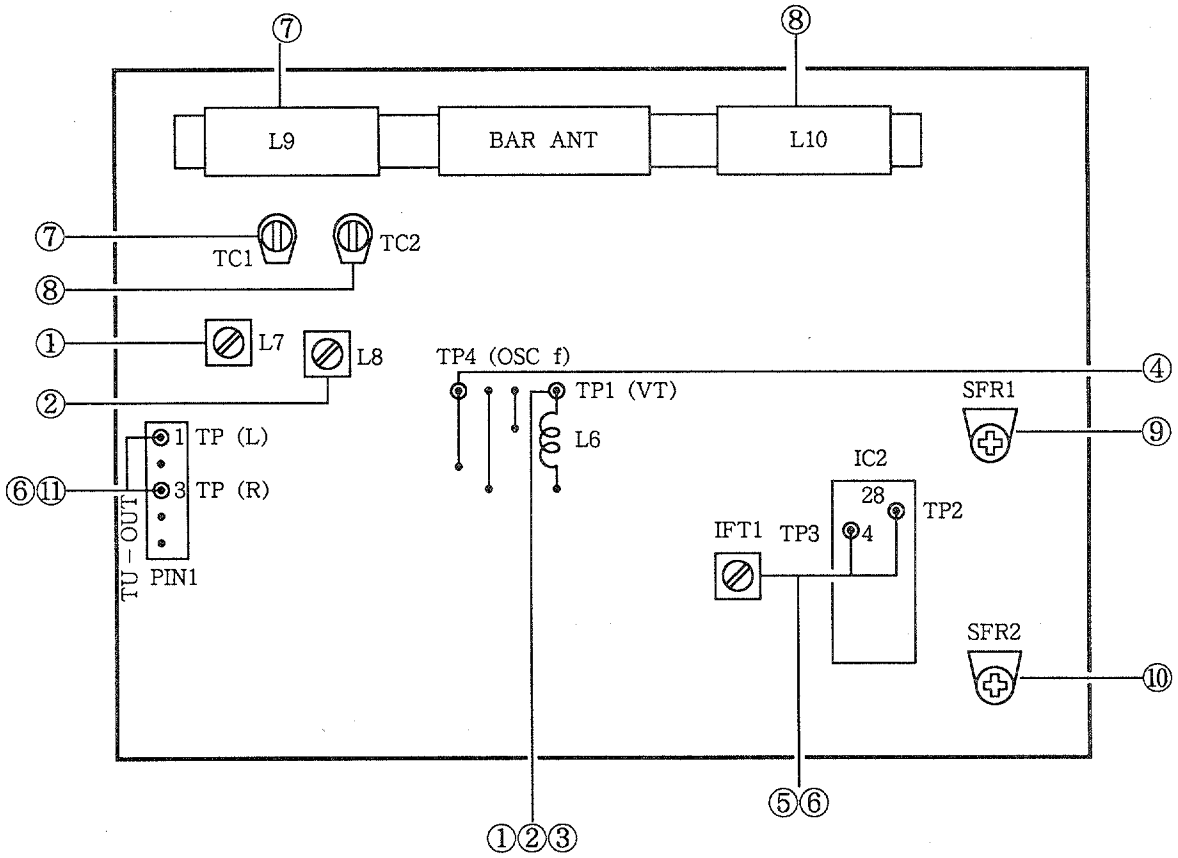


① Tape Speed Adjustment
Condition : • Test tape : TTA-100 (TTA-111S)
• Adjustment location : VR300
Method : Play back the test tape with Deck 1 and adjust so that the output frequency is 3000Hz. After the adjustment, check that the frequency of Deck 2 is 3000 ±55Hz.

② Azimuth Adjustment (Deck 1 and 2)
Condition : • Test tape : TTS-320 (TTA-113B and TCC-152)
• Adjustment location : Azimuth adjustment screw
Method : Play back the 8kHz portion of the test tape and adjust so that the output is maximum. Make the adjustment in the FWD PLAY and REV PLAY modes.

< TUNER SECTION >

A TUNER C.B



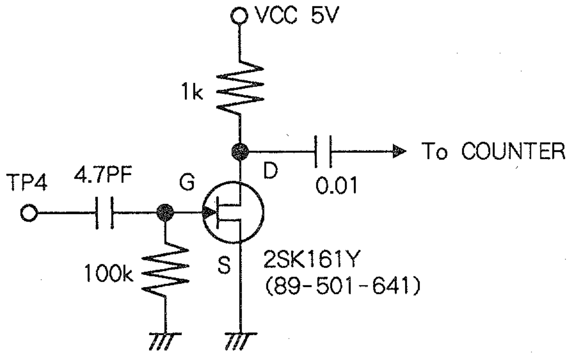
< RADIO SECTION >

1. LW VT Adjustment
   Settings : • Test point : TP1
   • Adjustment location : L7
   Method : Set to LW 153kHz and adjust so that the test point becomes 1.9 ± 0.01V.

2. MW VT Adjustment
   Settings : • Test point : TP1
   • Adjustment location : L8
   Method : Set to MW 522kHz and adjust so that the test point becomes 1.4 ± 0.01V.

3. FM VT Check
   Settings : • Test point : TP1
   Method : Set to FM 87.5MHz and check that the test point becomes 3.4 ± 0.3V.

4. FM OSC FREQ. Check
   Settings : • Test point : TP4
   Method : Connect a buffer to TP2. Set to FM 87.5MHz and check that frequency at test point becomes 65.3 ± 0.001MHz.



5. FM IF ADJ.
   IFT1 ·· 10.7MHz

6. DC Balance Adjustment

Settings : • Test point : TP2, TP3 (DC balance)
TU-OUT (PIN1) (distortion)
• Adjustment location : IFT1

Method : Set to FM 98.0MHz and adjust IFT1 so that TP2 and TP3 output becomes 0 ± 0.01V.

7. LW Tracking Adjustment

L9	153kHz
TC1	288kHz

8. MW Tracking Adjustment

L10	603kHz
TC2	1404kHz

9. FM AUTO STOP LEVEL Adjustment

Settings : • Adjustment location : SFR1
• Input level : 30dB

Method : Set to FM 98.0MHz and adjust TUNED Indicator (LCD1) to light on by SFR1.
After that, TUNED Indicator (LCD1) goes out by 2dB down.

10. LW AUTO STOP LEVEL Adjustment

Settings : • Adjustment location : SFR2
• Input level : 58dB

Method : Set to LW 207kHz and adjust TUNED Indicator (LCD1) to light on by SFR2.
After that, TUNED Indicator (LCD1) goes out by 2dB down.

11. Separation Check

Settings : • Test point : TU-OUT (PIN1)

Method : Set to FM 98.0MHz and check that the separation at TU-OUT becomes more than 30dB.

PRATICAL SERVICE FIGURE

< RADIO SECTION >

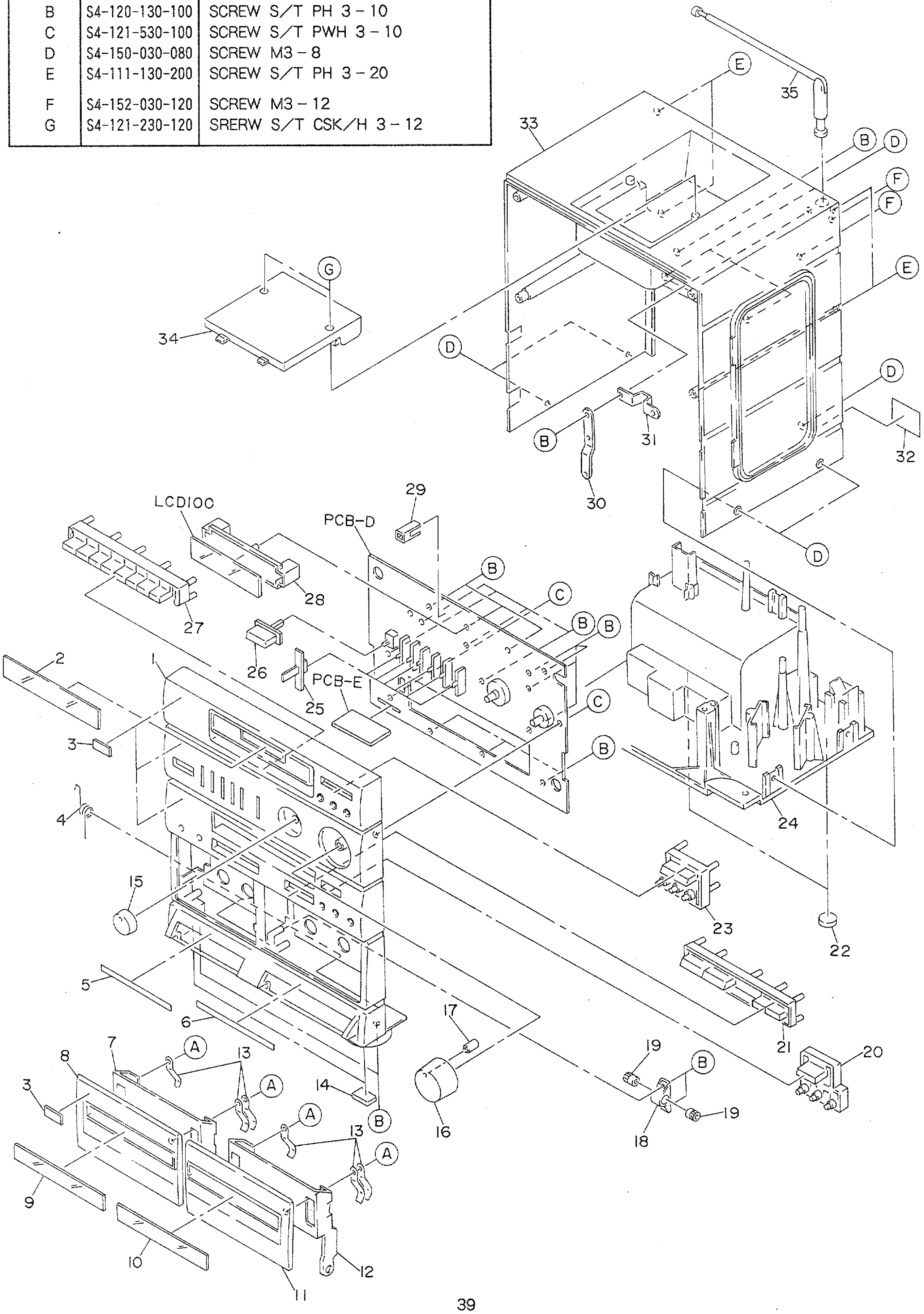
Sensitivity :	
(IHF,THD 3%)	FM Less than 24dB (98MHz)
(S/N 10dB)	MW 50 ± 4dB (999kHz)
(S/N 10dB)	LW 54 ± 4dB (207kHz)
Intermediate frequency :	FM 10.7MHz AM 450kHz
FM stereo separation :	27 ± 3dB (98MHz)

< TAPE RECORDER SECTION >

Recording bias frequency :	71.5 ± 0.5kHz
Erasing ratio (W/FILTER) :	50dB
Distortion :	Less than 3.0% (PB)
S/N ratio :	40dB (AC/DC, PB) 35dB (AC/DC, REC/PB)
Noise (PB) :	Less than 1mV (DC, PB MIN) Less than 1mV (AC, PB MIN)
Tape speed :	2940~3090Hz
Wow & flutter :	0.35% (JIS, UN WTD)
Take-up torque :	40~70g-cm
F.F & REW torque :	Less than 50g-cm

EXPLODED VIEW – 1

REF. NO.	PART NO.	DESCRIPTION
A	S4-120-120-060	SCREW TAP PH 2 – 6
B	S4-120-130-100	SCREW S/T PH 3 – 10
C	S4-121-530-100	SCREW S/T PWH 3 – 10
D	S4-150-030-080	SCREW M3 – 8
E	S4-111-130-200	SCREW S/T PH 3 – 20
F	S4-152-030-120	SCREW M3 – 12
G	S4-121-230-120	SRERW S/T CSK/H 3 – 12

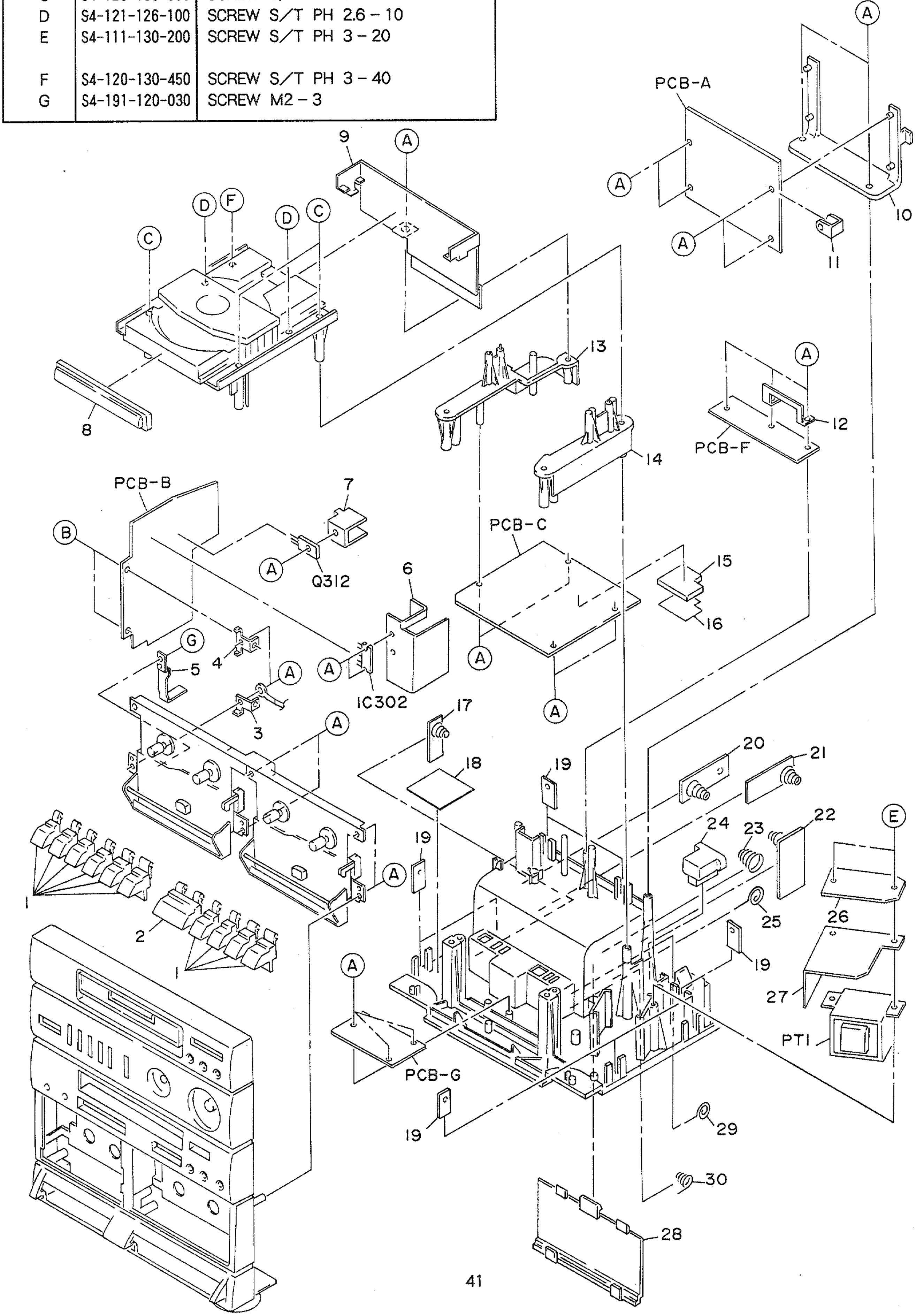


MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★S7-258-000-010	FRONT CABI		1
	1-2	★S7-358-000-040	LCD DISPLAY LENS		1
	1-3	★S7-358-000-240	LOGO		4
	1-4	★S4-058-000-070	CASSETTE DOOR SPRING		2
	1-5	★S6-045-800-010	CASSETTE FUNCTION INLAY A		1
	1-6	★S6-045-800-020	CASSETTE FUNCTION INLAY B		1
	1-7	★S7-358-000-150	CASSETTE DOOR A		1
	1-8	★S7-358-000-180	CASSETTE DOOR COVER A		1
	1-9	★S7-358-000-170	CASSETTE DOOR LENS,A		1
	1-10	★S7-358-000-360	CASSETTE DOOR LENS,B		1
	1-11	★S7-358-000-190	CASSETTE DOOR COVER B		1
	1-12	★S7-358-000-160	CASSETTE DOOR B		1
	1-13	★S4-058-000-400	CASSETTE TAPE HOLD SPRING		4
	1-14	★S8-004-580-010	RUBBER FOOT		2
	1-15	★S7-358-000-100	FUNCTION KNOB		1
	1-16	★S7-358-000-110	VOLUME KNOB		1
	1-17	★S7-358-000-130	VOL KNOB INDICATOR		1
	1-18	★S7-358-000-220	DAMP GEAR HOUSING		1
	1-19	★S7-358-000-230	DAMP GEAR		2
	1-20	★S7-358-000-080	CD MODE BUTTON		1
	1-21	★S7-358-000-050	CD CONTROL BUTTON		1
	1-22	★S8-000-400-170	FOOT DIA 12 - 1.6MM		2
	1-23	★S7-358-000-070	FM MODE BUTTON		1
	1-24	★S7-358-000-030	BOTTOM CABI		1
	1-25	★S7-358-000-120	SLIDER KNOB		6
	1-26	★S7-358-000-090	DUBBING BUTTON		1
	1-27	★S7-358-000-060	BAND BUTTON		1
	1-28	★S7-358-000-250	LCD HOLDER		1
	1-29	★S7-358-000-370	LED HOLDER		1
	1-30	★S4-058-000-030	ANTT CONN PLATE		1
	1-31	★S4-058-000-040	ANTT HOLDER		1
	1-32	★S6-045-800-030	VOLTAGE INLAY		1
	1-33	★S7-358-000-020	BACK CABI		1
	1-34	★S7-358-000-280	HANDLE PLATE		1
	1-35	★S4-058-000-160	ANTENNA		1

EXPLODED VIEW – 2

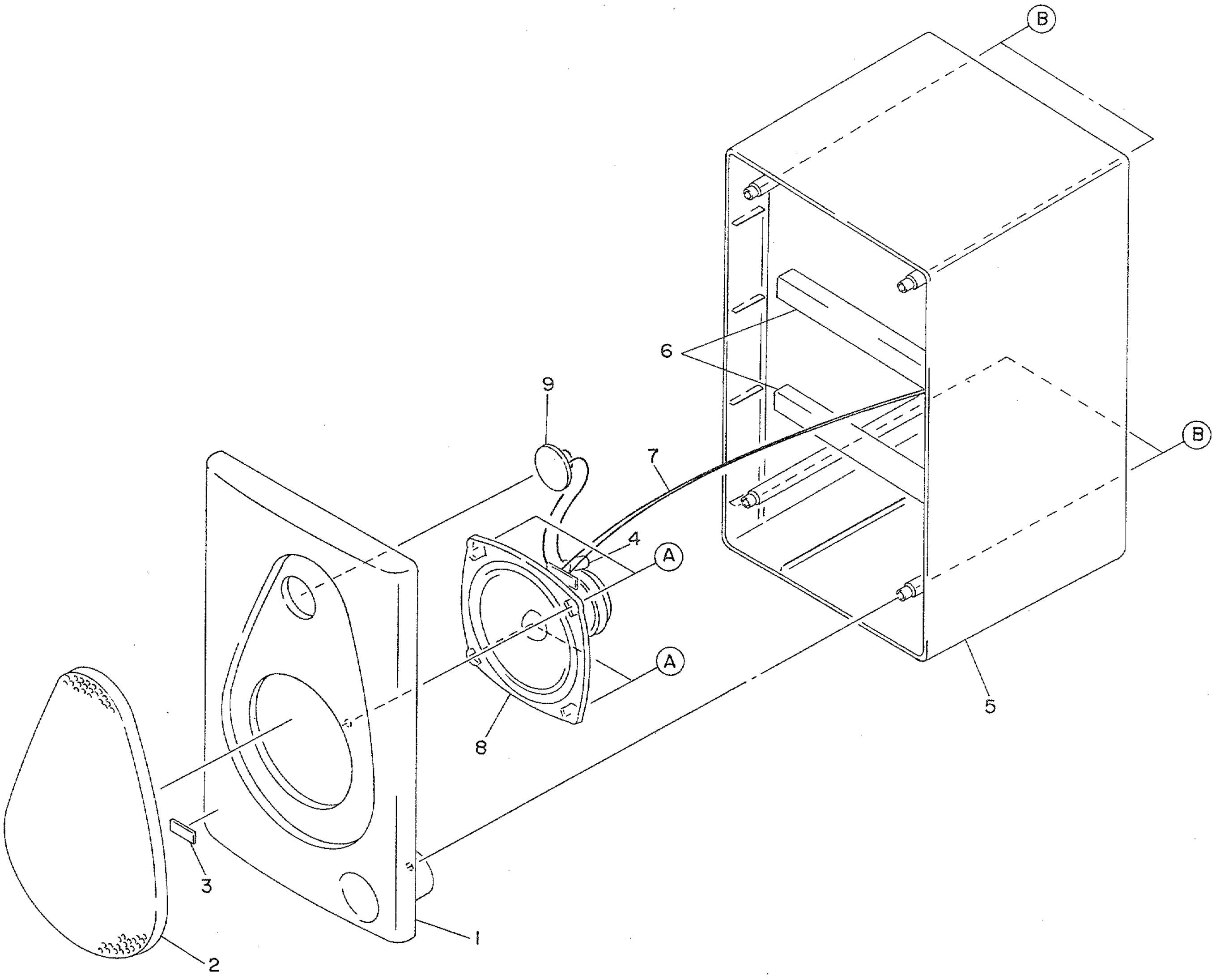
REF. NO.	PART NO.	DESCRIPTION
A	S4-120-130-100	SCREW S/T PH 3 – 10
B	S4-150-030-040	SCREW M3 – 4 NI
C	S4-120-130-600	SCREW S/T PH 3 – 60
D	S4-121-126-100	SCREW S/T PH 2.6 – 10
E	S4-111-130-200	SCREW S/T PH 3 – 20
F	S4-120-130-450	SCREW S/T PH 3 – 40
G	S4-191-120-030	SCREW M2 – 3



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-1	★S7-358-000-210	CASSETTE BUTTON - SMALL		10
	2-2	★S7-358-000-200	CASSETTE BUTTON - LARGE		1
	2-3	★S4-058-000-180	MOUNT BRACKET LOWER		1
	2-4	★S4-058-000-170	MOUNT BRACKET UPPER		1
	2-5	★S4-058-000-060	REC LEVEL		1
	2-6	---	HEAT SINK REV 1		1
	2-7	---	HEAT SINK (SMALL)		1
	2-8	★S7-358-000-140	CD DOOR		1
	2-9	★S4-058-000-150	CD SHIELD PLATE		1
	2-10	---	PCB MOUNTING BRACKET		1
	2-11	★S4-058-000-050	ANTT CONTACT PLATED		1
	2-12	★S4-058-000-410	SPEAKER JACK MOUNT BRACKET		1
	2-13	★S7-358-000-400	CD BRACKET (L)		1
	2-14	★S7-358-000-410	CD BRACKET (R)		1
	2-15	---	SHIELD PLATE CORT L PCB		1
	2-16	---	SHIELD PLATE CD PCB		1
	2-17	★S4-058-000-100	BATT CONTACT COM SUM3		1
	2-18	---	SHIELD SHEET		1
	2-19	★S4-051-400-070	SCREW PLATE LENGTH 1.5MM		7
	2-20	★S4-058-000-280	BATT CONTACT COM A, SUM1		1
	2-21	★S4-058-000-290	BATT CONTACT COM B SUM1		1
	2-22	★S4-058-000-130	BATT CONTACT COM SUM1		1
	2-23	★S4-058-000-120	BATT CONTACT - SUM1		1
	2-24	★S7-358-000-380	A/C SOCKET COVER		1
	2-25	★S4-058-000-110	BATT CONTACT + SUM1		1
	2-26	---	TRANS SHIELD PLATE		1
	2-27	---	TRANS SHIELD PLATE		1
	2-28	★S7-358-000-260	BATT DOOR		1
	2-29	★S4-058-000-080	BATT CONTACT + SUM3		1
	2-30	★S4-058-000-090	BATT CONTACT - SUM3		1

EXPLODED VIEW – 3

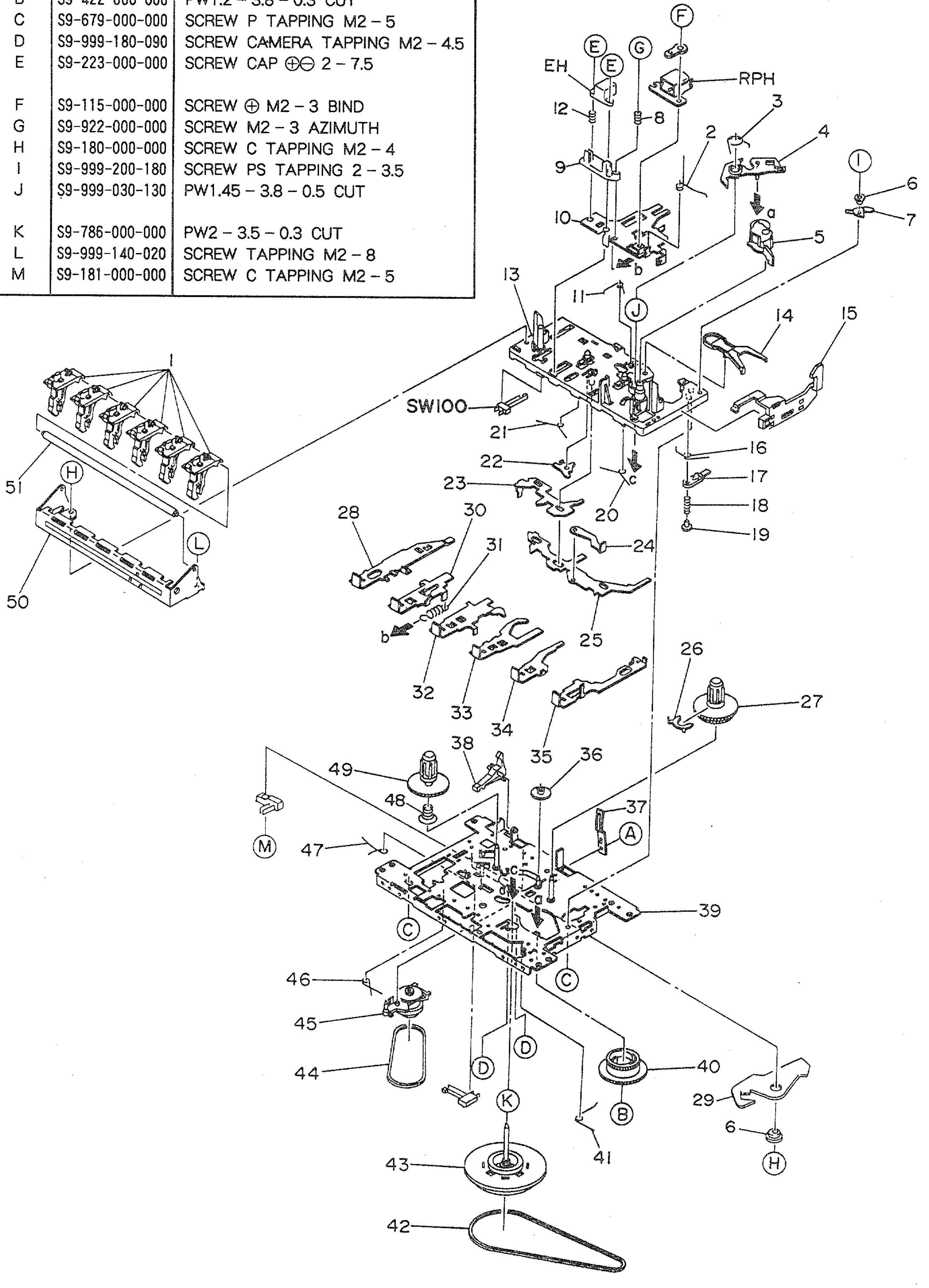
REF. NO.	PART NO.	DESCRIPTION
A	S4-121-530-100	SCREW S/T PWH 3 – 10
B	S4-111-130-200	SCREW S/T PH 3 – 20



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	3-1	★S7-358-000-340	SP FRONT CAB LEFT		1
	3-1	★S7-358-000-330	SP FRONT CAB RIGHT		1
	3-2	★S4-058-000-020	SPEAKER GRILLE, LEFT		1
	3-2	★S4-058-000-010	SPEAKER GRILLE, RIGHT		1
	3-3	★S7-358-000-350	SP LOGO		2
	3-4	★87-010-404-010	CAP. E 4.7uF – 50V		2
	3-5	★S7-358-000-310	SP BOTTOM CAB LEFT		1
	3-5	★S7-358-000-320	SP BOTTOM CAB RIGHT		1
	3-6	★S8-058-000-010	WOODEN BAR HORIZONTAL		4
	3-7	★S5-755-800-000	SPEAKER CORD		2
	3-8	★S5-615-800-000	SPEAKER		2
	3-9	★S5-625-800-000	BUZZER DIA 27MM		2

EXPLODED VIEW – 4

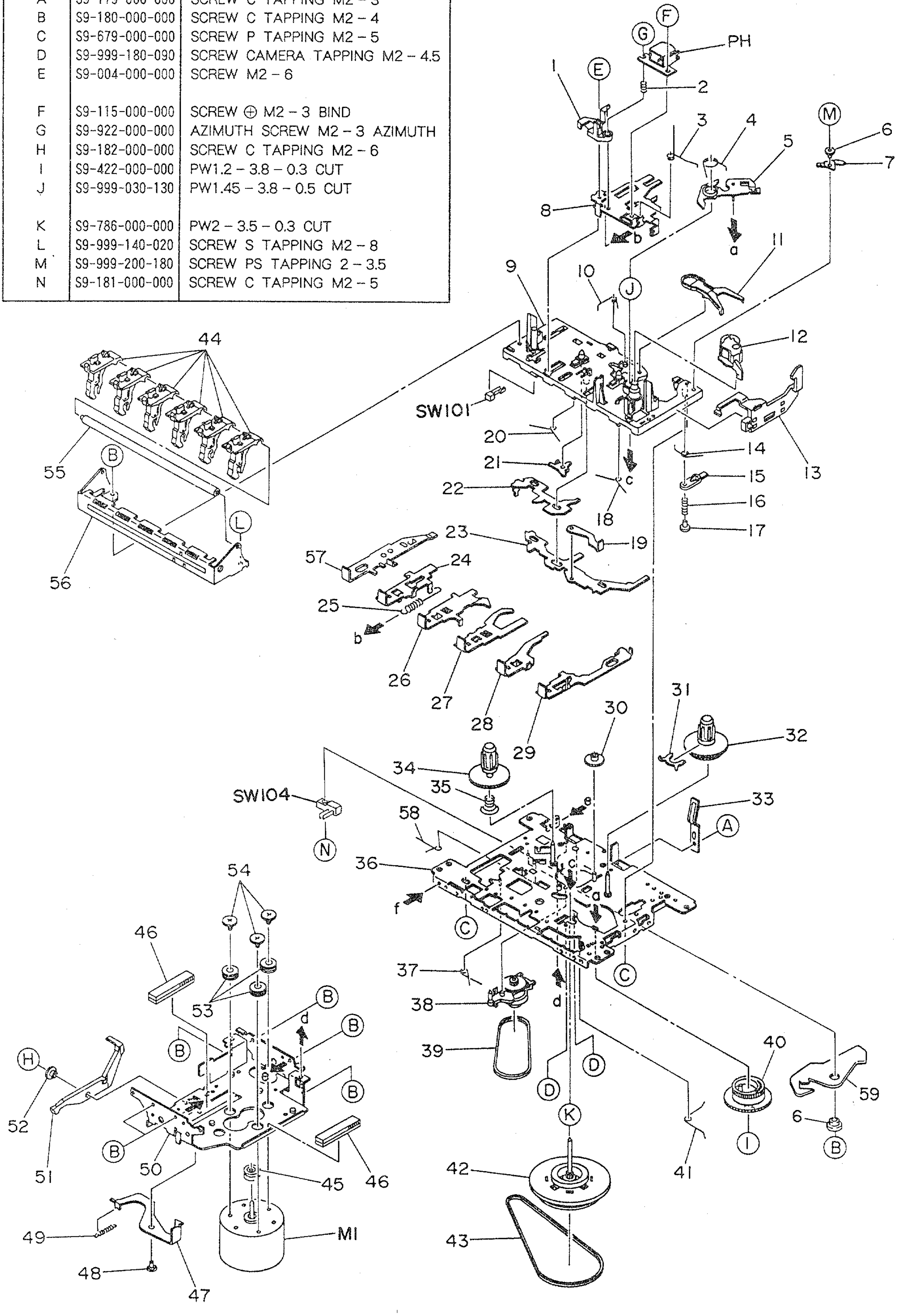
REF. NO.	PART NO.	DESCRIPTION
A	S9-179-000-000	SCREW C TAPPING M2 – 3
B	S9-422-000-000	PW1.2 – 3.8 – 0.3 CUT
C	S9-679-000-000	SCREW P TAPPING M2 – 5
D	S9-999-180-090	SCREW CAMERA TAPPING M2 – 4.5
E	S9-223-000-000	SCREW CAP ⊕⊖ 2 – 7.5
F	S9-115-000-000	SCREW ⊕ M2 – 3 BIND
G	S9-922-000-000	SCREW M2 – 3 AZIMUTH
H	S9-180-000-000	SCREW C TAPPING M2 – 4
I	S9-999-200-180	SCREW PS TAPPING 2 – 3.5
J	S9-999-030-130	PW1.45 – 3.8 – 0.5 CUT
K	S9-786-000-000	PW2 – 3.5 – 0.3 CUT
L	S9-999-140-020	SCREW TAPPING M2 – 8
M	S9-181-000-000	SCREW C TAPPING M2 – 5



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	4-1	★S1-821-310-070	LEVER, OPERATION		6
	4-2	★S1-921-030-090	P – SPRING, PANEL		1
	4-3	★S1-921-260-050	SPRING, GEAR PLATE		1
	4-4	★S1-921-265-020	GEAR PLATE ASSY		1
	4-5	★S1-921-043-100	PINCH ROLLER ARM ASSY		1
	4-6	★S1-921-140-370	COLLAR, P ARM		2
	4-7	★S1-921-140-340	ARM, P		1
	4-8	★S1-821-030-070	SPRING, AZIMUTH		1
	4-9	★S1-921-030-060	BASE, HEAD		1
	4-10	★S1-921-030-140	PANEL, HEAD		1
	4-11	★S1-921-141-8A0	M – SPRING, CONTROL		1
	4-12	★S1-821-030-080	SPRING, EH		1
	4-13	★S1-921-143-160	BASE ASSY		1
	4-14	★S1-921-260-4A0	LEVER, SENSING		1
	4-15	★S1-921-130-020	LEVER, EJECT SLIDE		1
	4-16	★S1-921-140-130	P – SPRING, CONTROL		1
	4-17	★S1-921-140-550	LEVER, PAUSE E		1
	4-18	★S1-921-140-120	SPRING, PAUSE LEVER		1
	4-19	★S1-921-140-110	STOPPER, PAUSE		1
	4-20	★S1-921-140-150	SPRING, BUTTON LEVER B		1
	4-21	★S1-921-140-140	SPRING, BUTTON LEVER A		1
	4-22	★S1-921-140-200	STOPPER, PR		1
	4-23	★S1-921-140-090	ACTUATOR, SWITCH		1
	4-24	★S1-921-140-640	LEVER, E KICK		1
	4-25	★S1-921-140-080	ACTUATOR, PUSH BUTTON		1
	4-26	★S1-921-050-060	SENSOR		1
	4-27	★S1-921-053-030	TAKE UP REEL ASSY		1
	4-28	★S1-921-140-220	LEVER, REC BUTTON		1
	4-29	★S1-921-020-010	ARM, REC		1
	4-30	★S1-921-140-230	LEVER, PLAY BUTTON		1
	4-31	★S1-921-010-500	SPRING, PLAY BUTTON LEVER		1
	4-32	★S1-921-140-240	LEVER, REW BUTTON		1
	4-33	★S1-921-140-250	LEVER, FF BUTTON		1
	4-34	★S1-921-140-660	LEVER, STOP BUTTON		1
	4-35	★S1-921-140-610	LEVER, PAUSE BUTTON		1
	4-36	★S1-821-100-700	GEAR, FF		1
	4-37	★S1-829-100-010	SPRING, PACK		1
	4-38	★S1-821-100-690	LEVER, REC SAFETY		1
	4-39	★S1-921-015-010	CHASSIS ASSY		1
	4-40	★S1-921-260-020	GEAR, CAM		1
	4-41	★S1-921-140-160	E – SPRING, ACTUATOR		1
	4-42	★S1-821-120-220	BELT, MAIN		1
	4-43	★S1-921-093-050	FLYWHEEL ASSY		1
	4-44	★S1-921-070-110	BELT, RF		1
	4-45	★S1-921-073-020	RF CLUTCH ASSY		1
	4-46	★S1-921-140-170	SPRING, PS LEVER		1
	4-47	★S1-921-140-210	SPRING, REC BUTTON LEVER		1
	4-48	★S1-821-110-990	SPRING, BACK TENSION		1
	4-49	★S1-921-053-040	SUPPLY REEL ASSY		1
	4-50	★S1-921-310-020	FRAME, BUTTON S		1
	4-51	★S1-829-310-030	SHAFT, BUTTON LEVER		1

EXPLODED VIEW – 5

REF. NO.	PART NO.	DESCRIPTION
A	S9-179-000-000	SCREW C TAPPING M2 – 3
B	S9-180-000-000	SCREW C TAPPING M2 – 4
C	S9-679-000-000	SCREW P TAPPING M2 – 5
D	S9-999-180-090	SCREW CAMERA TAPPING M2 – 4.5
E	S9-004-000-000	SCREW M2 – 6
F	S9-115-000-000	SCREW ⊕ M2 – 3 BIND
G	S9-922-000-000	AZIMUTH SCREW M2 – 3 AZIMUTH
H	S9-182-000-000	SCREW C TAPPING M2 – 6
I	S9-422-000-000	PW1.2 – 3.8 – 0.3 CUT
J	S9-999-030-130	PW1.45 – 3.8 – 0.5 CUT
K	S9-786-000-000	PW2 – 3.5 – 0.3 CUT
L	S9-999-140-020	SCREW S TAPPING M2 – 8
M	S9-999-200-180	SCREW PS TAPPING 2 – 3.5
N	S9-181-000-000	SCREW C TAPPING M2 – 5

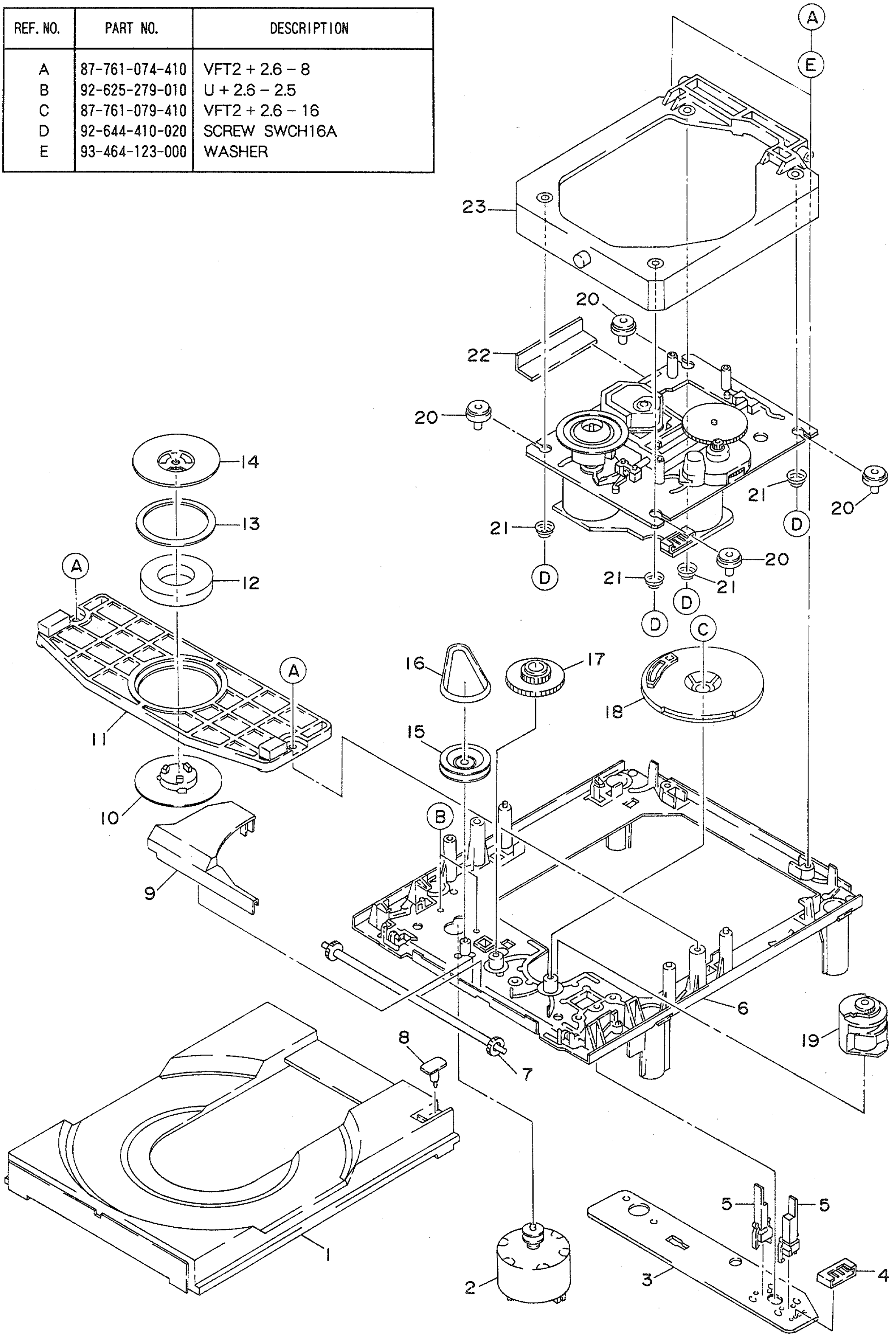


PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	5-1	★S1-921-030-040	BASE, HEAD		1
	5-2	★S1-821-030-070	SPRING, AZIMUTH		1
	5-3	★S1-921-030-090	P – SPRING, PANEL		1
	5-4	★S1-921-260-050	SPRING, GEAR PLATE		1
	5-5	★S1-921-265-020	GEAR PLATE ASSY		1
	5-6	★S1-921-140-370	COLLAR, P ARM		2
	5-7	★S1-921-140-340	ARM, P		1
	5-8	★S1-921-030-110	PANEL, HEAD		1
	5-9	★S1-921-143-010	BASE ASSY		1
	5-10	★S1-921-140-840	M – SPRING, CONTROL		1
	5-11	★S1-921-260-4A0	LEVER, SENSING		1
	5-12	★S1-921-043-100	PINCH ROLLER ARM ASSY		1
	5-13	★S1-921-130-020	LEVER, EJECT SLIDE		1
	5-14	★S1-921-140-130	P – SPRING, CONTROL		1
	5-15	★S1-921-140-550	LEVER, PAUSE E		1
	5-16	★S1-921-140-120	SPRING, PAUSE LEVER		1
	5-17	★S1-921-140-110	STOPPER, PAUSE		1
	5-18	★S1-921-140-150	SPRING, BUTTON LEVER B		1
	5-19	★S1-821-011-590	LEVER, E KICK		1
	5-20	★S1-921-140-140	SPRING, BUTTON LEVER A		1
	5-21	★S1-921-140-200	STOPPER, PR		1
	5-22	★S1-921-140-400	ACTUATOR, SWITCH		1
	5-23	★S1-921-140-080	ACTUATOR, PUSH BUTTON		1
	5-24	★S1-921-140-230	LEVER, PLAY BUTTON		1
	5-25	★S1-821-010-500	SPRING, PLAY BUTTON LEVER		1
	5-26	★S1-921-140-240	LEVER, REW BUTTON		1
	5-27	★S1-921-140-250	LEVER, FF BUTTON		1
	5-28	★S1-921-140-260	LEVER, STOP BUTTON		1
	5-29	★S1-921-140-610	LEVER, PAUSE BUTTON		1
	5-30	★S1-821-100-700	GEAR, FF		1
	5-31	★S1-921-050-060	SENSOR		1
	5-32	★S1-921-053-030	TAKE UP REEL ASSY		1
	5-33	★S1-829-100-010	SPRING, PACK		1
	5-34	★S1-921-053-040	SUPPLY REEL ASSY		1
	5-35	★S1-821-100-990	SPRING, BACK TENSION		1
	5-36	★S1-921-015-010	SHASSIS ASSY		1
	5-37	★S1-921-140-170	P – SPRING, LEVER S		1
	5-38	★S1-921-073-020	RF CLUTCH ASSY		1
	5-39	★S1-921-070-110	BELT, RF		1
	5-40	★S1-921-260-020	GEAR, CAM		1
	5-41	★S1-921-140-160	E – SPRING, ACTUATOR		1
	5-42	★S1-921-093-110	FLYWHEEL ASSY		1
	5-43	★S1-821-120-220	BELT, MAIN		1
	5-44	★S1-821-310-070	LEVER, OPERATION		6
	5-45	★S1-921-120-130	PULLEY, MOTOR		1
	5-46	★S1-921-120-120	MAT, FELT		2
	5-47	★S1-821-120-680	LEVER, P KICK A		1
	5-48	★S1-821-120-230	SCREW, PK COLLAR A		1
	5-49	★S1-821-120-250	P – SPRING, KICK LEVER		1
	5-50	★S1-921-120-110	BRACKET, MOTOR		1

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	5-51	★S1-921-120-090	LEVER, P KICK B		1
	5-52	★S1-821-120-650	COLLAR, B		1
	5-53	★S1-820-130-060	RUBBER, MOTOR		3
	5-54	★S1-821-120-020	SCREW, MOTOR COLLAR		3
	5-55	★S1-829-310-030	SHAFT, BUTTON LEVER		1
	5-56	★S1-921-310-020	FRAME, BUTTON S		1
	5-57	★S1-921-140-220	LEVER, REC BUTTON		1
	5-58	★S1-921-140-210	SPRING, REC BUTTON		1
	5-59	★S1-921-020-010	ARM, REC		1

EXPLODED VIEW – 6

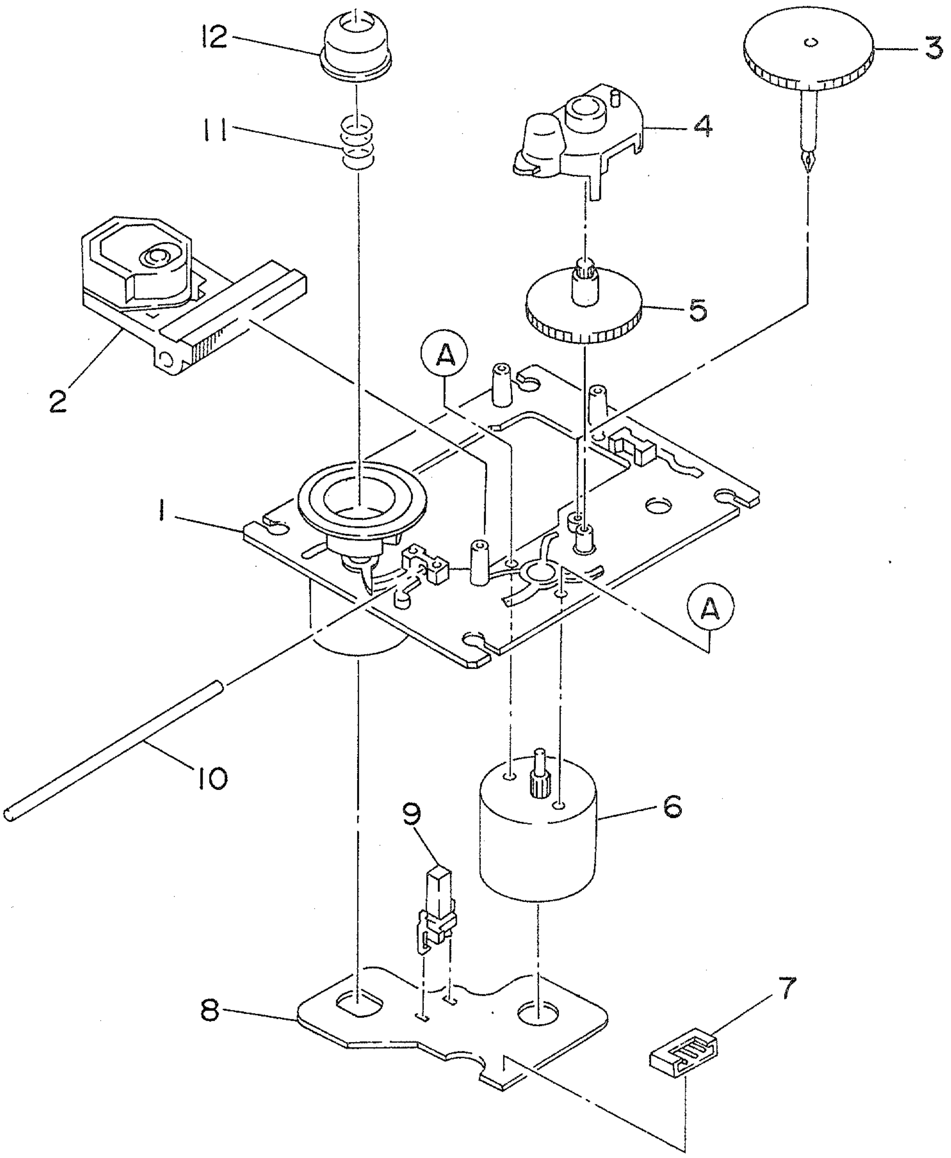
REF. NO.	PART NO.	DESCRIPTION
A	87-761-074-410	VFT2 + 2.6 – 8
B	92-625-279-010	U + 2.6 – 2.5
C	87-761-079-410	VFT2 + 2.6 – 16
D	92-644-410-020	SCREW SWCH16A
E	93-464-123-000	WASHER



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	6-1	★92-625-288-040	TRAY		1
	6-2	★9X-262-511-710	LOADING MOTOR ASSY		1
	6-3	---	PWB, LOADING		1
	6-4	★91-564-721-110	CONNECTOR 5P		1
	6-5	91-572-086-110	SWITCH, LEAF		2
	6-6	---	CHASSIS, MAIN		1
	6-7	★92-625-275-030	GEAR, TRAY		1
	6-8	---	SW PIN		1
	6-9	★92-625-282-020	COVER, GEAR		1
	6-10	★92-625-286-030	PULLEY, CHUCKING		1
	6-11	★92-625-284-040	PLATE, CHUCKING		1
	6-12	★91-452-493-210	MAGNET		1
	6-13	★92-625-541-010	DAMPER		1
	6-14	★92-625-277-010	YOKE, CHUCK		1
	6-15	★92-625-276-010	PULLEY, LOADING		1
	6-16	★93-653-387-000	BELT, LM		1
	6-17	★92-625-274-020	GEAR, MEDDLE		1
	6-18	★92-625-285-030	GEAR, DRIVE		1
	6-19	★92-625-283-020	CAM, CONTROL		1
	6-20	★92-625-278-010	INSULATOR		4
	6-21	★92-625-280-010	SPRING		4
	6-22	---	PLATE, PUSH		1
	6-23	---	SUB CHASSIS ASSY W/INSU SHAFT		1

EXPLODED VIEW – 7

REF. NO.	PART NO.	DESCRIPTION
A	87-261-032-210	V + 2 – 3



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	7-1	★9X-262-513-310	T.T CHASSIS ASSY		1
	7-2	98-848-127-11Z	PICK UP KSS – 210A		1
	7-3	★92-625-188-020	GEAR, A		1
	7-4	★92-625-544-010	COVER		1
	7-5	---	GEAR, B		1
	7-6	★9X-262-513-210	SLED MOTOR ASSY		1
	7-7	★91-564-722-110	CONNECTOR 6P		1
	7-8	---	PWB, MOTOR		1
	7-9	91-572-085-110	SWITCH, LEAF LIMIT		1
	7-10	★94-917-565-010	SHAFT, SLED		1
	7-11	★92-625-191-010	SPRING, COMPRESSION		1
	7-12	★92-625-187-010	RING, CENTER		1